

# PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 21, 1882.

## ORIGINAL COMMUNICATIONS.

### INTRAVENOUS INJECTIONS OF AQUA AMMONIÆ FORTIOR IN A CASE OF SEWAGE-POISONING.

*Read before the Philadelphia County Medical Society,  
September 20, 1882.*

BY J. T. ESKRIDGE, M.D.,

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TO Dr. Moylan, resident physician in St. Mary's Hospital, I am indebted for many facts in the history of the following case:

George B., æt. 36 years, by occupation a sewer-cleaner, of rather intemperate habits, but healthy, and with a powerful muscular development, was admitted into the St. Mary's Hospital about 12 M. of July 12, 1882. Those who accompanied him gave the subjoined history:

During the morning he descended fifteen feet into a privy-well for the purpose of cleaning it. Almost immediately after he reached the bottom of the well, he was overcome by the gas, and fell, his body being almost entirely covered by fecal matter, his mouth pointing upwards, but still so close to the foul matter by which he was surrounded that some of the more liquid contents of the well could easily gain access to his air-passages during labored efforts at inspiration. He remained in this situation half an hour, when a rope was passed around his body, and he was hoisted from the well in an apparently lifeless condition.

During the next three hours mustard plasters were applied to his feet, and his body was rubbed with whisky, a large quantity being used externally; but none was administered internally. A physician was summoned, but he declined to undertake to do anything for the man's relief, and advised his removal to a hospital. When he arrived at St. Mary's, his condition was noted to be as follows:

His clothing had all been taken off, and his body wrapped in a blanket. The greater portion of the cutaneous surface was besmeared with the contents of the well. His breath had the odor of decomposing fecal matter. His temperature was not taken, but it was thought to be normal; pulse 160, and exceedingly weak; respiration 50 per minute, labored, spasmodic, and decidedly stertorous. The lips, face, and neck were congested and of a dark livid appearance; the pupils were widely dilated, and the conjunctivæ injected. He was being repeatedly and violently convulsed. The sudden contractions of his limbs threw his body in every direction, making it difficult for the five men who held him to prevent him

from injuring himself. Ten drops of tincture of digitalis, given hypodermically, decreased the frequency of the pulse a short time, but within a few minutes its frequency was greater than before resorting to this method of medication. After this, hypodermic injections, consisting of digitalis and brandy, failed to affect the pulse. It was then fluctuating between 162 and 200 per minute. One-sixtieth of a grain of sulphate of atropia and one-quarter of a grain of sulphate of morphia injected into the left arm quieted the muscular movements a little on the corresponding, and markedly on the opposite, side of the body. The convulsive movements soon became mostly unilateral, the left arm and leg being thrown wildly in all directions. One-eighth of a grain of apomorphia was administered hypodermically, but no emesis followed. He had been under treatment in the open air in the rear of the hospital about one hour when I first saw him. His condition was rapidly getting worse. The eyes moved from side to side in a jerking, spasmodic manner, the pupils, insensible to light, contracted and dilated, often several times in one minute; the pulse was 168; respirations 48; temperature 100.6°. The extremities were cool, although warm applications were applied to them. I desired Dr. Moylan to continue with the hypodermics of brandy, which he had given several times before I chanced to see the patient. I waited about twenty minutes to observe the influence of repeated brandy injections. At the end of this time his pulse was 200, of irregular volume, and scarcely perceptible to the finger. The heart-sounds were muffled, and tracheal râles were present. His respiratory efforts, 60 per minute, were of a puffing and jerking character, the lips and buccal portions of the face being prominent from the force of the air during expiration, and collapsing during inspiration. The lips, face, and neck were of a dark-purple color, and a venous stasis, which usually precedes death, was taking place on the cheeks. A bloody, frothy mucus was escaping from the mouth. The catheter had been passed, and the bladder was found to be empty. It seemed to me that everything that promised any relief had been tried, yet it appeared that death was inevitable.

It occurred to me, in view of the state of the capillary circulation, that the cardiac frequency might be due to clotting of the blood in the heart, and that if anything could be gotten into the circulation to change the condition of the blood and rouse the man's vital powers for a short time, he, being naturally strong, might be able to throw off the noxious influences of the poison. Intravenous injection of ammonia seemed to be indicated. I exposed one of the superficial veins at the bend of the arm, raised it with the forceps, and gradually injected into it thirty-five minims of the undiluted stronger water of am-

monia. The pulse was almost immediately lessened in frequency and increased in volume, but the stimulating effects soon began rapidly to pass away. Ten minutes after the first injection, thirty-five minims more were injected into the vein, and this was repeated every ten minutes, until one hundred and forty minims of the ammonia solution had been introduced into the blood. The character of the pulse was improved by each injection, the respiratory efforts becoming deeper and less frequent. The convulsive movements had by that time nearly ceased. The case still seemed hopeless, but, as I had to leave the hospital, I requested Dr. Moylan to repeat the injections of ammonia every fifteen minutes, until, if the man did not revive, all appearances of life were extinct. I was so sure he would die that I requested the doctor to inform me when the coroner would make the post-mortem examination. Dr. Moylan informed me next day that after he had given him the sixth injection (making the tenth with what I had employed) the pulse-beat was 128 per minute, and that it did not increase in frequency again; that the breathing became slower and more natural, the man being then in a semi-conscious condition and able to swallow some milk and brandy. After giving him two more injections of the ammonia (making twelve in all) he revived sufficiently to enable the doctor to keep his strength supported by stimulants and food administered by the mouth. At 7.30 P.M. (ten hours after entering the privy-well) he was apparently conscious. The next day he was walking about the wards of the hospital, feeling quite well. On the second day after his admission he left the institution, and came back only once to have his arm dressed.

September 16, 1882, a little more than two months after the accident, I saw the man, and obtained a few additional facts in his previous and subsequent history. He had been engaged in cleaning privy-wells, sewers, etc., about five years, and had never been unpleasantly affected with the gas before. July 12, 1882, he went down into a deep well that had been cleaned one year previously by men who experienced no unpleasant results. Before going into the well a light was lowered, but it was not extinguished. Immediately after being placed in the well he ordered a bucket. This was the last he knew, until he awoke next morning in one of the wards of the St. Mary's Hospital. He experienced no headache, neither before becoming unconscious nor after his recovery. He did not remember anything of his conversation with Dr. Moylan during the evening of the previous day, although he had conversed with the doctor and was thought by him to be entirely conscious. The appreciable effects of the gas, some of which had scarcely disappeared two months afterwards, were slight nausea, lasting a few weeks, alternate loose-

ness and costiveness of the bowels, lasting a short time only, great drowsiness, and indisposition to exercise, attended by loss of appetite. He said that until quite recently he had felt bilious most of the time since he was poisoned, and at first had lost considerable flesh, but that of late, his appetite having returned with increased vigor, this had all been regained. No phlebitis resulted from the injury to the vein, and the wound made in the arm was in a good condition and attended by but little irritation while he remained in the hospital and kept the limb quiet on a splint. When he went home, his arm gave him so little inconvenience that he would wear nothing but a small bandage around the joint. He was instructed to keep the arm quiet, and to return daily to the hospital to have the wound dressed. He came back only once. A few days after this, the cutaneous portion of the incision healed, when pain, followed by swelling of the forearm and hand, began, resulting in an abscess at the seat of injury at the elbow, of considerable size. Two small boils subsequently formed on the forearm. It was five weeks before the arm felt strong enough for him to resume his occupation. Tingling sensations of short duration have been experienced in the ends of the fingers of the affected arm, but these, of late, have been very slight and infrequent.

*Remarks.—What was the nature of the poisonous gas in this case?* As a burning taper was not extinguished when held at the lower portion of the well, I should be inclined to exclude poisoning from the accumulation of carbonic acid gas or a gaseous mixture in the form of deodorized air, found by Thénard in the sewers of Paris.\*

According to statements made in works on toxicology, three noxious gases capable of destroying life may be found in sewers and privy-wells,—viz., sulphuretted hydrogen, sulphide of ammonium, and carbonic acid gas. The symptoms of sulphide of ammonium poisoning, which vary but little from poisoning by sulphuretted hydrogen, agree very closely with those presented by the case reported in this paper. These, as stated in Taylor's "Medical Jurisprudence" (p. 470), are, "If a person is but slightly affected, he will probably complain of nausea and sickness; his skin will be cold, his respiration free but irregular; the pulse is commonly frequent, and the voluntary muscles, especially those of the chest, are affected by spasmodic twitchings. If more strongly affected, he loses all power of sense and motion; the skin becomes cold, the lips and face assume a violet hue, the mouth

\* Taylor's Medical Jurisprudence, p. 472.

is covered by a bloody and frothy mucus, the pulse is small, frequent, and irregular, the respiration hurried, laborious, and convulsive; and the limbs and trunk are in a state of general relaxation. If still more severely affected, death may take place immediately; or should the person survive a few hours, in addition to the above symptoms there will be short but violent spasmodic twitchings of the muscles, sometimes even accompanied by tetanic spasms. If the person is sensible, he will commonly suffer the most severe pain, and the pulse may become so quick and irregular that it cannot be counted. When the symptoms are of such a formidable nature, it is rare that a recovery takes place."

The man who ventured into the well to rescue the person, the history of whose case I have given in this paper, came very near losing his own life. A rope was tied around his body, and he was lowered into the well; but he had only just time enough to throw another rope around his insensible companion, when he became unconscious. He was immediately drawn out of the well, and soon revived when exposed to fresh air.

Taylor\* mentions "an accident which occurred in Whitechapel, in August, 1857. Three men died speedily from breathing the vapor of an old sewer, and two others nearly lost their lives in attempting to assist them."

I hope some member of the Society will be able to tell me whether the gases found in sewer-wells (those through which water flows) and those found in privy-wells (those wells that are not underdrained, and into which no water is allowed to run) differ in quantity or quality, or both.

*A burning taper not a sufficient test of safety of places where mephitic gases are liable to accumulate.*—It ought to be generally known to men accustomed to work in sewers that, if a lighted taper is not extinguished when lowered in a well, it indicates that the oxygen of the air of the sewer or well has not been greatly diluted by nitrogen or carbonic acid gas, and that while a taper may burn brilliantly, the most poisonous gases (sulphuretted hydrogen and sulphide of ammonium) may exist in sufficient quantities to destroy life immediately. Every one who employs men to clean wells should be compelled by law, before sending his workmen into privies

or partially closed sewers, to apply the sulphide of ammonium, sulphuretted hydrogen, and carbonic acid gas tests.

*Treatment.*—But little has been done heretofore in the way of treatment for sewer-gas poisoning except to allow abundance of fresh air, induce full inspirations by cold water to the head and spine, and to administer, when the patient is able to swallow, warm brandy-and-water. When swallowing is impracticable, hot enemata at a temperature of 110° to 115° might be given, and, if necessary, hypodermic injections of brandy should be employed. In sulphuretted hydrogen poisoning, Woodman and Tidy recommend the respiration of a trace of chlorine. "This," they say, "can be effected by making the person breathe from out of a bottle containing a small quantity of chloride of lime."† Oxygen and artificial respiration ought to be useful, especially in cases of carbonic acid gas poisoning.

In the case I have presented to-night, everything known likely to be of any benefit to the patient was done, but his death was momentarily expected. As a last resort, and because the man was believed to be dying, I resorted to intravenous injections of ammonia, more to observe its effects on the pulse in such a condition than with a hope of saving life. I was not aware at the time that I was using the stronger water, but afterwards I learned that the hospital kept only this preparation of the aqueous solution, and on testing it I find it to have a specific gravity of .900. I exhibit to-night a specimen of the ammonia taken from the same bottle from which the syringe was filled. The first and second syringefuls, containing thirty-five minims each, were injected gradually and cautiously while the effects of the ammonia on the pulse were being observed. Each subsequent injection had a more permanent effect on the heart, but during the first two hours of this method of medication the pulse would again begin to lose in strength and increase in frequency after the lapse of a few minutes. It was not until after the tenth syringeful had been employed that the pulse ceased to show signs of returning failure of the heart. The ammonia injections lessened the frequency and increased the strength of the pulse, diminished the number of respirations per min-

† Forensic Medicine and Toxicology, by Woodman and Tidy, p. 493.

\* Medical Jurisprudence.

ute, and relieved convulsive movements. When we remember the results of the experiments of injecting water of ammonia into the veins of some of the lower animals, the quantity (nearly an ounce) injected into the veins of the man who is before you to-night seems almost incredible, and ought to have produced death. The ammonia injections were not used rashly. Little by little the syringe was emptied, while the action of the heart was being watched. Indications were present, and, after being removed, repeatedly returned, for a continuance of the bold procedure. As soon as it was thought that life could be maintained by other and safer means, no further risks were taken.

Phillips says,\* "Ten drops of the liquor [meaning the stronger water of ammonia] diluted with one or two ounces of warm water and injected into a vein, excite the heart so powerfully as to rouse a patient from a state of collapse. Larger quantities—thirty drops given in the same manner, after a momentary arrest, stimulate intensely, and may induce convulsions; still larger quantities cause momentary fall of arterial pressure, then sudden and enormous rise, with corresponding increase of pulse-rate." The same author states that "forty grains of carbonate of ammonia dissolved and given in the same way weaken the cardiac contractions and render them irregular, while sixty grains cause a sudden arrest of the circulation, the heart-muscle being paralyzed."

Dr. H. C. Wood states, without giving the quantity, that "when ammonia is injected into the veins of animals in considerable quantities, it causes violent convulsions, with remarkable disturbance of the respiration, followed, if the dose has been large enough, by death in a very short time."†

It is well known that ammonia added to blood outside of the body prevents or greatly retards coagulation.

The questions might with propriety be asked, How did the ammonia act in this case? and what indications arising in other cases would justify its intravenous injection? I think its action in this case of sewage-gas poisoning was twofold: first, it lessened or prevented the tendency to the formation of a pulpy heart-clot; secondly,

it stimulated the cardiac and respiratory centres in the upper portion of the spinal cord or medulla. Ammonia has the power to greatly retard decomposition, and it may have acted in this manner also, as a general dissolution of the blood and tissues is stated to take place during life in fatal poisoning by sewer-gas.

In any case with symptoms of impending suffocation, or with a struggling heart unable to empty itself, in which a few hours' prolongation of life would be of great avail in the treatment, I should not hesitate to inject sufficient water of ammonia into a vein, to properly excite the respiratory and cardiac centres.

The physiological effects of ammonia when introduced into a vein are to increase the frequency and force of the heart's action, hurry respiration, and, when employed in large quantities, to produce convulsive movements. In the case of the man before you it arrested the convulsions and lessened the frequency of the pulse and respiration. Its action in this case is not difficult to reconcile with its physiological effects. The convulsive movements were undoubtedly due to the deoxidized and poisoned condition of the blood. The ammonia stimulated the respiratory efforts, the blood became reoxygenated, and the lungs were enabled to throw off poisonous elements from this fluid. Convulsions were not produced by the large quantity of ammonia injected into the blood, because the nervous system does not so readily respond to irritants when deprived of its healthy irritability. The tonic or strengthening influence of the drug on the heart and lungs is sufficient to explain its apparent paradoxical effects on this man's cardiac and respiratory centres.

The curious phenomena were the rapid alternate contraction and dilatation of the pupils, and the unilateral convulsions confined to the side of the body in which the atropia and morphia had been injected. It is probable that the play of the pupils was due to the antagonizing influences of atropia and morphia over each other.

I have no plausible explanation to offer in the elucidation of the peculiarly induced unilateral convulsions.

In regard to the quantity of ammonia to be introduced into the blood, I think no definite rules can be laid down. The full effects of the drug, when employed in this manner, are produced almost immediately,

\* *Materia Medica and Therapeutics*, vol. i., 1882.

† *Therapeutics, Materia Medica, and Toxicology*, by H. C. Wood, M.D.



and should be ascertained by observing the pulse while the syringe is being gradually and slowly emptied. I should be guided in this method of stimulation very much as I would be influenced in giving alcohol in cases of typhoid fever attended by marked depression of the vital forces. If five or ten drops were sufficient to arouse my patient, I should give no more; or if nearly an ounce were necessary, as was found in the instance I have related, I should not hesitate to employ this quantity. Effect, not dose, would be my object. In all cases the syringe should be emptied slowly, allowing sufficient time to elapse to enable one to see the effects of a small quantity before a larger one is given.

It should be borne in mind that the intravenous injection of the carbonate is probably attended with greater danger to life than when the water of ammonia is employed.

When I again resort to the intravenous method of using ammonia, I shall dilute the stronger water with two parts of distilled water heated to about 110° F. If water freed from its impurities cannot be obtained, I shall use the ammonia-water in its purity or dilute it with pure alcohol.

#### NOTES ON TINEA DECALVANS.

*Read before the Philadelphia County Medical Society,  
September 20, 1882.*

BY J. CUMMISKEY, M.D.

**T**INEA DECALVANS is a disease affecting chiefly the hairy scalp, and is known by various names. Willan describes it as porrigo decalvans; Bazin, as teigne pelade decalvans; Mahon, as tinea tendens; and Gruby, as phyto-alopecia. It has also been described under the name of alopecia areata. Though enjoying a diversity of titles, it is by no means difficult of recognition. Tilbury Fox, in his admirably clear style, has described it as "characterized by the presence of circular, perfectly smooth, pale, bald patches varying in size from one-third of an inch to one or two inches or more in diameter. Patients say that they discovered a small bald spot, which has got steadily larger and larger. There may be several spots. There may be slight scurfiness. The patches are well defined. . . . The hairs around the bald patch are more or less dry, come out readily, and are seen to be bulbless and tapering at their roots

towards a point. Under the microscope, in some instances, at intervals on the shaft, are collections of minute spores, and also in the little masses of epithelium that stick to the hair. The hair may present bulgings here and there, which are due to the presence of abnormal granular matter, partly pigmentary, partly the minute stromal form of the fungus, which is also scattered throughout the hair."

The discovery of a bald spot upon the scalp, unattended by an eruption, is generally a surprise to the patient, and the disease is frequently allowed to become well established before recourse is had to treatment. Some itchiness of the scalp is noticed previous to the falling of the hair, but this is not a sufficient warning to awaken the attention of the patient to the existence of the disease and enable him to take advantage of medical treatment early enough to prevent the alopecia which is sure to ensue.

Tilbury Fox, in his description above given, shows his undoubted adherence to the parasitic origin of the disease. The presence of a vegetable parasite has, however, been denied by some dermatologists, but the origin of the disease, it is generally conceded, is due to the presence of the microsporon audouini, which was discovered by Gruby in 1843. Robin denied its existence, but Bazin, in 1853, confirmed Gruby's discovery.

The parasite, it is said, appears first upon the shaft of the hair, and grows downwards into the hair-follicle. There once, it grows, safe from any interference, until, by the destruction of the hair and its removal, the parasitocides have the chance of reaching and destroying it.

McCall Anderson considers the disease a comparatively rare one, having in private practice seen but forty-four cases in one thousand, and but one hundred and fifty-three in ten thousand cases in hospital practice.

The identity of the several parasitic diseases has been ably discussed by W. Tilbury Fox, and it is probable that, as the subject becomes more closely studied, his views will be found correct. The treatment being, however, much the same in all, the practitioner will not suffer while the subject is undergoing the process of scientific elaboration.

The disease, coming for treatment, as it generally does, already well established, is

chronic in duration and difficult of cure. For, after destroying the parasite, the alopecia or baldness remains, and the latter is, in many instances, no easy matter to remedy.

In giving an opinion as to the time the baldness will last, it would be well to allow abundance of time, particularly if the case be an adult, for it may be that many months of tedious waiting and persevering treatment may elapse before you are rewarded by signs of a new and natural growth of hair.

The usual plan of treatment recommended is to apply parasitocides to those portions of the scalp in which the disease is noticed, to stimulate the bald patches by means of cantharides, and to give internally arsenic in some form. This plan may succeed in some cases, but it may also fail, and much time may thereby be lost. The disease can be eradicated most speedily by a recourse at once to epilation, or the extraction of all the diseased hairs. Commencing at the borders of the patches, the hairs should be gradually removed as far as any evidence of disease can be detected. The parts to be epilated should be prepared by the application, as recommended by Bazin, of the *huile de cade*, which renders their extraction more easy. After epilating a portion, the oil of cade may be rubbed in, and a solution of bichloride of mercury in alcohol may be directed to be applied two or three times a day. (Bichloride of mercury gr. iv, alcohol 3j, is the usual strength.)

The bald patches must be blistered from time to time, and the whole scalp shaved at times to enable you to watch for fresh evidences. If stubs be noticed here and there throughout the hitherto sound portions, then it were better to epilate the whole of the scalp. Attention must be given to the general treatment, tonics and arsenic being generally found needed and serviceable.

In epilating, care should be taken not to grasp too many hairs at one time, as unnecessary pain is thereby inflicted, and, besides, many more of the hairs are broken off than otherwise would be, and the operation is made more tedious.

THE HEALTHIEST CITY IN EUROPE.—At the recent meeting of the Hygienic Congress at Geneva, it was stated that the bills of mortality gave Geneva a death-rate of only 17 per 1000.

## A CASE OF RENAL CALCULI.

Read before the Philadelphia County Medical Society,  
September 20, 1882.

BY J. B. WALKER, M.D.

MR. PRESIDENT AND GENTLEMEN,—I beg leave to present the following case, which may not be without interest:

Mrs. Rosa F., aged 30 years, German, married for twelve years, has had four children, all of whom are living. Prior to her present illness she was always possessed of unusually good health. Twelve months ago, while pregnant the last time, and about the period of quickening, she first felt a pain, paroxysmal in character, and extending along the line of the right ureter. Prior to this, for about two years, she passed from time to time "bloody urine," in which could be seen sandy particles. Since the paroxysmal pains first presented themselves, they have frequently recurred, sometimes on one side, sometimes the other, radiating from the position of the kidney to the bladder, and usually followed with hæmaturia, and sometimes the escape with the urine of concretions, pin-head or larger in size. Of late, besides the paroxysmal pains, constant pains in the loins and along the ureters and over the vesical region have persisted, gradually increasing, accompanied by some suprapubic tenderness. She has submitted to various plans of treatment, without experiencing relief. She presented herself at the Dispensary Service of the Woman's Hospital in December, 1881, and was consigned to my clinic. Her face was pale and careworn, body well nourished, appetite moderate, bowels normal. Complaints of pain along the course of the right ureter, and tenderness over the bladder. Sometimes the pain is worse along the left ureter. Has a "burning sensation" in the vesical region. A specimen of the urine, which was passed just before the clinic, was dense, bloody, and loaded with a white sediment, a portion of which, somewhat firm, represented a pin-head calculus. This urine, voided within a half-hour, was alkaline, without a particle of ammoniacal odor. The sediment entirely disappeared on adding an acid.

Her condition is evidently due to the escape, from time to time, of renal concretions of small dimensions, formed in the pelvis or calices of the kidneys, and carried with more or less pain along the ureters to the bladder, where a small amount of vesical catarrh is produced, sufficient to induce the burning pain and soreness of which she complains, but not enough to cause the formation of secondary ammoniacal phosphates.

Renal calculi are usually due to the deposition of uric acid, next most frequently of oxalates. The present case was evidently due to neither of these deposits, as the

urine, always acid in such cases, was alkaline when voided, and the deposits at once disappeared on acidulation. It was therefore diagnosed as a case of "primary phosphatic" deposit or "gravel," which, though a rare form of renal calculus, does sometimes occur. Secondary phosphatic calculus, or vesical phosphatic calculus, due to catarrh and the associated ammoniacal decomposition of the urine, is of daily occurrence, being a constant accompaniment of chronic inflammation of any portion of the route of the urine to the bladder and inclusive thereof. In these cases the urine is also alkaline when voided, but is at the same time ammoniacal. With these points before us, the question of treatment was entered upon. It was decided to administer such substance as should render the urine acid, and keep it so. The vegetable acids, being worked up in the economy into alkaline carbonates, were not admissible for our purpose. The mineral acids, being equally inefficient for our purpose, were excluded. Benzoic acid, having been proven to be excreted as hippuric acid, or, when given in excess, partly as benzoic acid also, was chosen.

The patient was ordered fifteen-grain powders of benzoic acid, with instructions to take one four times in the day. She returned three weeks later to report improvement. The urine was much clearer, being neither bloody nor smoky. It was acid in reaction. The paroxysms of pain had almost ceased, and, though the vesical pain was still present, it was much subdued. But the remedy had become exceedingly distasteful, and she desired that it should be changed, if possible. She was directed to discontinue it, and in its stead were ordered fifteen-grain powders of boracic acid,—an agent also capable of rendering the urine acid,—with directions to take one powder four times a day. As the internal use of the agent was somewhat new, she was requested to report at once in case any unpleasant symptoms presented, and to report in two weeks at the clinic.

Two weeks after, she returned, and those who had seen her careworn and anxious face a few weeks before could scarcely have recognized the patient. She was entirely relieved of all her symptoms. Her digestion was good, with a good appetite and regular bowels. All evidences of pain had vanished from her face, and its pallor had disappeared. The urine was perfectly clear, with an acid reaction and no sediment. She was directed to continue the remedy, taking two doses daily, until further notice.

Three weeks later, February 7, she reported

having stopped the remedy about a week before, on account of a diarrhoea associated with some vertigo, and, as her nursing babe was also affected with diarrhoea, she thought the remedy might have induced the symptoms; and, as she had had no return of her urinary trouble, she had discontinued it. The diarrhoea and vertigo ceased, and she is in excellent health and spirits, with a urine acid in reaction and without sediment.

I have seen the patient within a month, and she still continues well.

I am of the opinion that this was a case of primary phosphatic calculi; but in this I may be mistaken. Its rapid recovery, after the tendency to precipitate a sediment was corrected by rendering the urine acid, would seem to me to exclude the usual causes of secondary phosphatic calculi.

### ACUTE YELLOW ATROPHY OF THE LIVER.

*Read before the Philadelphia County Medical Society, September 20, 1882.*

BY J. H. MUSSER, M.D.

MY apology for the incomplete report of this case is that the ignorance and superstition of the family absolutely forbade any attempt at scientific investigation. I am indebted to my friend Dr. McCall, of West Philadelphia, for the opportunity of studying the case with him. The doctor had attended the patient during a period of three weeks previous to my seeing her, on account of symptoms of gastro-enteric catarrh, with light jaundice. Only two days previous to my seeing the patient did she present symptoms which led the doctor to recognize the disease.

I saw Mrs. B. June 23. She was 25 years old, of the lower class, in the fifth month of pregnancy with her second child. She had had puerperal convulsions and a very hard labor with the first child. When she found she was again pregnant, her disposition changed: she brooded very much over her condition, was much alarmed at the prospects of another confinement, and resorted to means to provoke an abortion. At the visit she was sleeping heavily, and was aroused with difficulty, to answer questions with hesitation. She had been in this semi-stupid state for three days. She had severe headache, and was rather restless. Pupils equal and normal; conjunctivæ yellow; skin of a lemon-yellow hue; arms and trunk more deeply stained than legs; no eruption or ecchymoses; temperature normal; tongue coated with a light-yellow fur; no appetite; constant vomit-

ing of mucus and dark-green bile; severe epigastric pain, and pain in the hepatic region; abdomen not distended. In the nipple-line the hepatic dulness was two inches in width, the lower limit being two inches above the margin of the ribs; in the axilla two and one-half, and posterior two inches. The spleen was not enlarged. Pulse 104.

June 24.—Stupor more marked; passes urine involuntarily; vomiting of a dark grumous material; bowels opened twice; pulse 100; temperature normal.

25th.—Semi-comatose; tongue dry; slight hemorrhage on gums and lips. Although almost in coma, yet tosses about the bed, and is wildly delirious at times. Had vomited profusely a liquid which, on standing, separated into two portions,—a clear colorless portion and a dark coffee-ground-looking portion. Bowels not opened; pulse 80, moderately full; no fever.

26th.—Semi-comatose; pupils regular, partially contracted, fixed; low delirium; involuntary fecal and urinary discharges; tongue dry and brown; sordes; anterior liver-dulness only in sixth interspace; spleen enlarged; pulse 70, full.

27th.—Coma; pulse 90, rather full; no elevation of temperature; death. She did not abort. It is almost needless to say that, prior to death, the yellow atrophy was diagnosed, and an unfavorable prognosis given.

*Post-mortem*, two hours after death.—Body warm; rigor mortis begun; large ecchymoses over surface. Abdominal cavity alone examined. Tissues stained with bile; blood not coagulated, of a peculiar dark mahogany-red color; no peritonitis. Liver not seen in ordinary view. Found high up and against vertebral column; intestine between it and thorax. It was about half its natural size, very soft and flabby, and with its capsule puckered up. The thickness was lessened more than any other dimension. Large areas of the external surface were of a mahogany-red color, and larger of a yellow hue. On section, the red portions looked not unlike the red-colored pulp of oranges we often see; the yellow were characteristically ochre-colored. The red portion was congested, the yellow anæmic. In the latter areas, the outlines of the lobules were effaced, although there were numerous dark-red puncta marking the hepatic vein. The gall-bladder was very small, and contained a teaspoonful of olive-green bile. The ducts were empty and patulous. Spleen slightly enlarged. Kidneys enlarged; capsules removed easily; stellate veins and capillary circlets enlarged; tissue bile-stained and congested; cortex enlarged.

Microscopical examination of the liver resulted as follows. In some areas the cells of the lobules were not much degenerated, but all contained one or more oil-globules. In most lobules, however, the cells of the periphery were markedly changed: globules of

oil in abundance, shrivelled cells, free nuclei, and numerous lymphoid cells replaced the normal liver-cells. Some of the lobules were entirely destroyed. In some lobules a marked infiltration of lymphoid cells in the periphery was noted. The portal vein appeared normal. The hepatic vein showed cell-infiltration. The walls of the artery were thickened. The hepatic duct was filled with epithelial cells, and the walls thickened. No crystals of leucin or tyrosin were found, but here and there hæmatoidin. The kidneys presented the characteristic changes of chronic desquamative nephritis, with congestion.

It is further to be noted that the urine, obtained with difficulty, was of a porter color, acid, and of a specific gravity of 1.014. It contained one-eighth albumen, fatty and granular casts, fatty epithelium and free oil-globules, urate of soda crystals, and oxalates. There was not a sufficient amount to make a quantitative examination. Leucin and tyrosin were absent; indican present.

The macroscopical and microscopical appearances show that the liver was not entirely diseased,—scarcely half. The histological appearances distinctly show to my mind that the changes were due to a diffuse hepatitis.

It is probable, as in a case Murchison reports, that the disease had not sufficiently advanced to produce the characteristic changes in the urine. The state of the kidneys must be considered as a factor determining the result. The absence of hemorrhages beneath the skin is to be noted, and the occurrence only of trivial ones from the mouth and stomach.

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## HERNIA AND VAGRANT TESTICLE.

BY HENRY M. WETHERILL, JR., M.D.,

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THE following case will illustrate what serious results may follow the careless and unscientific application of trusses to hernia, by those who engage in the business of adjusting the various supporting and retaining appliances to the parts affected, without first acquiring that knowledge of anatomy which is indispensable to the proper pursuit of their vocation.

While acting as resident physician to the Pennsylvania Hospital, the following case came under my observation:

G. M. R., æt. 25 years, a widower, and without children, is the subject of congenital, indirect, incomplete, inguinal hernia of the right side. He states that the right testicle



has frequently disappeared from the scrotum, and then returned again, and that this has been the case as far back as his memory reaches.

The hernia has never descended into the scrotum. In 1869 he underwent an operation for the radical cure of the hernia, which was unsuccessful. About four weeks prior to his admission, his attention was attracted by an advertisement which promised the radical cure of hernia by the application of a truss. He applied at the store, where they fitted him with a truss which he has worn ever since, although it caused him pain and uneasiness from the very first. Upon examination, it is found that he has hernia, the intestine being lodged in the inguinal canal, and apparently sustained by the right testicle, which is also lodged in the canal in advance of the loop of intestine. The testicle has sustained the principal pressure from the pad of the truss, and is much irritated, and can be felt through the integument as a hard painful tumor. The character of the pain is constant, throbbing, and sickening, causing faintness, nausea, and sometimes vomiting, with great weakness and copious perspiration. The patient was put to bed, ordered liquid diet, sedative and antiphlogistic washes applied locally, and morphia given by the mouth *pro re nata* for the relief of pain. This treatment having been pursued for five or six days, with little or no relief to the patient, Dr. William Hunt decided to operate. The parts having been shaved, and the patient etherized, Dr. Hunt made an incision in the line of the canal, four inches in length, and removed the testicle, which was found adherent in the canal, supporting the hernia, which was small and was slightly congested. The loop of intestine was not disturbed. The parts were very vascular and much inflamed, and several vessels were tied with silk. The canal was now occluded by passing pins deeply under it, their heads and points resting upon the integument upon either side of the incision, twisted sutures bringing the edges into apposition. Carbolized dressing was applied to the wound, and a grain of opium was given by the mouth every four hours until the patient was well under its influence. The next day peritonitis set in, the temperature rose to 104°, and for the next ten days the condition of the patient was most critical, the temperature ranging from 102° to 103.5°; but after this it abated, and the patient made a good recovery from the peritoneal inflammation. Upon the sixth day after the operation, the pins, having loosened, were withdrawn, and it was found that the wound was uniting and looked well. It was supported by adhesive straps, and the carbolized dressing was continued. By the twelfth day the ligatures were all away. From this time the patient did well, the wound healed, and it was found that he had been radically cured of the

hernia, its descent having been rendered impossible by the obliteration of the canal. An examination of the removed testicle showed that it was much atrophied, blackened, and softened, and, had it not been removed, would have soon sloughed.

Those who hold the opinion that irritations of the male genital organs are sometimes capable of producing a hysterical condition in the male, would have had their opinion strengthened by an examination of this patient at the time of his admission to the hospital. His condition was distinctly hysterical, and so remained until the removal of the compressed testicle, after which he bore the pain of the peritoneal inflammation and of the wound with great patience and fortitude.

## NOTES OF HOSPITAL PRACTICE.

### UNIVERSITY HOSPITAL.

CLINIC OF D. HAYES AGNEW, M.D., ONE OF THE SURGEONS TO THE HOSPITAL, AND PROFESSOR OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

Reported by Wm. H. MORRISON, M.D.

DISEASE OF THE KNEE-JOINT.

GENTLEMEN,—The first case that I shall show you this morning is this little patient, who is 5 years of age. You at once notice a change in the contour of the left leg, and you will also observe that the main characteristic features of the knee-joint have been obliterated. You do not see the sharp line of the patella, nor do you see the depression upon either side of the quadriceps muscle. When I place my hand over the knee, I find that the surface-temperature is greater than on the opposite side. When I attempt to extend the limb, I meet with great resistance, part of which is unquestionably voluntary and part involuntary. Some of this is due to spasm of the muscles, caused by the child's apprehension of being hurt. In attempting to flex the limb there is the same super-sensitive condition of the joint. Placing my finger behind the joint, I find the tendons rigid, and I also find a little prominence, which is becoming suspicious on account of its softness,—not exactly fluctuation, but something akin to it. This is what we learn by looking at the limb.

Let us now go back a little. We learn that about two years ago this child first had trouble in the knee-joint,—that is, there was a certain amount of tenderness,

swelling, and a disposition to flex the leg. When you find these symptoms in a child of about this age, you should suspect the beginning of a serious joint-trouble. The joint-trouble may originate in the articulating extremities of the bones or in the synovial membranes. In all serious joint-troubles you will find the limb beginning to assume the position you here see. It is an effort on the part of nature to accommodate the fluid thrown out. You do not see it in inflammations outside of the joint. In extra-articular troubles the limb is not flexed, and when you find this disposition to flex the limb you may know that you have some deep-seated or intra-articular trouble to deal with.

The reason of this flexing is twofold. If you take a knee-joint that has been cleared of everything except the ligaments, and flex the leg, you will find that the ligaments become relaxed; but extending the leg they are put on the stretch: so when there is flexion the inflammatory effusion inside of the joint has more room. Then there is another reason. All intra-articular trouble is accompanied by a certain irritability of the muscles. The muscles begin to contract, but, as the posterior muscles are admirably situated to flex the limb, they overpower the anterior muscles, and we have flexion.

We have different forms of this disease. Sometimes it is a simple synovitis, the result of traumatism. An individual receives a blow on the knee, catches cold, or something of this kind, and the knee becomes swollen, red, tender. The affection of the synovial membrane is acute in character, and generally, under proper treatment, soon disappears. If, on the other hand, the disease has a constitutional origin, you have reason to expect an inflammation of an insidious and deep character. I know that at the present day this doctrine is rather scouted, most inflammation of joints in children being referred to traumatism; but this, like all fashionable things, will have its day, and you will find the profession settling down to the opinion that behind the traumatism there is some constitutional state which predisposes the person to this form of inflammation.

In what consists the stiffness or ankylosis in these articular affections? Sometimes it is lymph thrown across the joint in different directions, or the inflamma-

tion may attack the cartilage, and these become ulcerated, disintegrated, and removed, thus exposing the articular ends of the bones. Then the compact tissue covering the articulating extremities may be broken down, and granulations start from the cancellated tissue. The joint becomes filled with this granulation tissue, which finally ossifies, and the ends of the bones become firmly united together (bony ankylosis). There is another form in which fungoid granulations occur. This gives a suspicious softness or a sense of fluctuation to the joint.

Again, abridged movement may be due to changes on the exterior of the joint. When the joint is flexed, there are produced doublings or corrugations in the ligaments. These doublings may be united together. In all these cases it is important to keep the limb in such a posture that if ankylosis should occur (and we sometimes desire this termination) the limb will still be useful.

I consider the present case to be one of strumous arthritis. The limb is becoming fixed in an unfavorable position, but there is now such a degree of inflammation that it would not be proper for me to attempt to straighten the leg; but, after the acute symptoms have subsided, I shall bring the limb to a better position.

The proper treatment for a joint in this condition is to put the limb at rest by means of silicate or a plaster dressing, or by means of a posterior splint moulded to its posterior surface, and wait until the acute inflammatory symptoms have disappeared. Then, if we believe that disorganization of the joint has not taken place, we shall divide the tendons and straighten the limb. I shall therefore apply a plaster bandage, and paint the joint with the tincture of iodine or with Lugol's solution (the compound solution of iodine), which in some respects is better than the tincture. Constitutional treatment is also important. Although this child is pretty well nourished, I shall give him cod-liver oil and the iodides.

#### COXALGIA.

Here is another little child, rather delicate-looking, who has a trouble which we have located in the hip, for the following reasons. I take hold of the left thigh, put my finger on the anterior superior spinous process of the ilium, and then

carry the thigh in and out in this manner. You see that the pelvis remains quiet. I flex the thigh until its anterior surface touches the abdomen: still the pelvis does not move. Let us now test this on the right side. I take hold of the thigh in the same manner, and you see immediately that the pelvis moves with every motion of the limb. Here, then, is a symptom which is positive, crucial, which settles beyond question that this is disease of the hip, or, in other words, coxalgia. There is another symptom usually present in these cases,—that is, obliteration of the fold separating the thigh from the buttock, the gluteo-femoral fold. On the left side there is a distinct crease, but on the right the thigh passes into the buttock without any distinct line of demarcation. You also observe, as the child stands, that the whole limb is advanced, the foot turned out, and the knee flexed. This is the position of the limb in the first stage of coxalgia.

Coxalgia, as you know, sometimes commences in the acetabulum, sometimes in the head of the femur, and sometimes in the synovial membrane. It usually occurs in early childhood, and in the majority of cases has a constitutional origin. It has been divided into stages: the first stage is characterized by flexion of the thigh, flexion of the leg, and eversion of the foot; following this we have the second stage, in which the posture of the limb is changed, the foot being inverted, and the external portion of the hip being very prominent; in the third stage, disease of the bone, necrosis, and abscess occur.

An important matter is to make the diagnosis as soon as possible. If you will remember the few symptoms which I have given, they will enable you to determine always whether or not the disease is present. Coxalgia is often mistaken for rheumatism.

What is the treatment? The treatment is rest of the joint. A cardinal principle in the treatment of all articular disease is rest. What I mean by rest is absolute immobility of the joint. There are different methods of treating hip-joint disease. There is one plan which consists, as it is alleged, in drawing the articular surfaces of the bone apart, while at the same time the patient is allowed to walk about, the weight of the body being supported on the perineum. This does not secure fixation

of the joint, but the supposition is that, the joint-surfaces being drawn asunder, the source of irritation is removed. I take it on myself to say that there are anatomical reasons which make it impossible to draw the articulating surfaces from each other in this way. I say, further, that no plan that allows the motion of the joint is adapted for the treatment of hip-joint disease. The function of a joint is motion. The more a joint is moved, the more blood flows to it; but you do not want any more blood than is necessary for the support and repair of the part. If you have more, you aggravate the inflammation.

The proper plan of treatment is fixation of the joint. The old Physick method, which consisted in the use of a splint, was a good plan; but it was objectionable in that it required the patient to keep the recumbent position. If it is possible by any means to fix the joint and at the same time allow the patient to move about, we have accomplished the great indications in the treatment of coxalgia: the patient is allowed to go out in the air, and the general health is improved. This is an important consideration in all cases of this kind.

The best apparatus for the treatment of this disease is, I think, the one which I here show you. It consists of a large piece of leather, which is fastened around the body. To the back part of this leather is secured a piece of steel. This runs over the buttock, fitting into the gluteo-femoral fold, down the thigh, and terminates halfway between the knee and the foot. Bands of leather extend around the thigh, knee, and calf, thus securing the apparatus. Having thus fixed the joint, it is necessary to raise the patient. You may do that either by a shoe like this, with an iron sole, or, which is perhaps more elegant but certainly more expensive, by a shoe with a cork sole, placed on the foot of the sound side, thus raising the patient two and a half or three inches. The patient is then placed on crutches, and allowed to go about. This splint is constructed somewhat on the plan of Thomas, a surgeon of Liverpool, England. It has, I think, been very tardily accepted by surgeons on this side of the water, but it will in time find its way into favor.

You may, perhaps, live at a distance from an instrument-maker, and you want to know how to order this apparatus. Take

a piece of flexible metal, and apply it to the back of the limb, causing it to fit into all the inequalities. Next take a plaster roller and carry it around the body, commencing below the crest of the ilium and extending upwards to the inferior angle of the scapula. Allow the plaster to remain on for fifteen minutes, until it hardens; then slit it up the front and remove it. Send the plaster roller and the metal strip to the instrument-maker, and he can make an apparatus which you can readily apply. If there is any tendency to slip, suspenders over the shoulders will remedy the difficulty.

This apparatus should be kept on for some time. I have frequently had patients who have aborted the disease in eight months or a year. Taking the case in its incipency, you can occasionally bring about resolution of the disease, and prevent it from going through those horrible stages which lead so often to such deformity, and often, indeed, to the death of the patient from the wasting effects of suppuration.

#### LUXATION OF THE LOWER JAW.

The next case is one of luxation of the jaw. This man has had the accident occur on several occasions. Both condyles, or only one, may be displaced (bilateral or unilateral luxation). When the luxation is complete, the condyles are carried over the eminentiæ articulares into the temporal fossæ. The lower jaw is then in front of the upper, but perhaps not so much as you would think. The dental arches are sometimes slightly and sometimes widely separated, the jaw is fixed and immovable, the saliva flows over the lip, and the patient is incapable of speaking.

The symptoms that I have just detailed do not correspond with the condition present in this man. He can open his mouth, which he could not do if he had a complete luxation, but he cannot shut it. If, in a complete luxation, you put your finger in front of the ear, you will find a depression where the condyle should be. As I move this man's jaw, I feel the condyle moving under my finger, a little in advance of its usual position. This is, therefore, partial luxation, in which the condyles rest on the eminentiæ articulares. Partial luxation occurs generally as the result of an unusual relaxation of the

muscles of mastication, or of elongation of the ligaments.

In the reduction of this luxation, it is generally necessary to guard the thumbs by wrapping them with a towel, or something of the kind. The first thing to do is to place the thumbs on the molar teeth of each side and press the jaw directly downwards, so as to disengage the lock of the coronoid processes under the zygomatic arch. As soon as the muscles have been elongated, the chin is to be elevated, and the muscles will then draw the jaw into its place. [The doctor here reduced the luxation in the manner described.] It is always well to direct that a bandage be tied around the head, in order to fix the jaw. The jaw is very easily displaced after it has been once out.

The late Prof. Gibson used to tell a good anecdote in regard to luxation of the jaw. "An old and quite wealthy man came into the office of a surgeon, with a luxation of the jaw, and made motions to have it reduced. The jaw was reduced, and on being asked the fee the doctor mentioned an amount which the man regarded as entirely too much, and insisted on its being reduced one-half. The surgeon said no more about the fee, but began to talk, and pretty soon told a laughable story. The man began to laugh heartily, and out went the jaw. He again made signs to have it reduced, but the doctor said, 'When you pay down my fee, I will put in your jaw.'"

#### HYDROCELE—TREATMENT FOR RADICAL CURE.

This patient has a swelling situated on the right side,—in the right scrotum. This swelling, he says, began in the lower part of the scrotum and gradually rose towards the external abdominal ring. This swelling is pyriform in shape; it has a disposition to stand off from the body; when I press it, it gives me the impression of an accumulation of fluid; it has never disappeared since it began; it remains the same in the recumbent position; it cannot be removed by pressure, or passed up into the cavity of the abdomen; and when examined by the light test it is found to be translucent. These symptoms indicate its character: it is a hydrocele. This is sometimes confounded with hernia; but, when you consider the points that I have mentioned, you will see that this mistake



is not likely to be made. Hernia commences above, and goes down; in the early stages, at least, it is reducible, and when the man lies down it returns into the abdominal cavity; when the patient coughs, unless the hernia is strangulated, there is more or less impulse communicated to the hand, and you will always find, what I regard as a very characteristic symptom, that a hernia falls in towards the thighs, and never stands out from between them.

This, then, is a hydrocele, or a collection of fluid in the tunica vaginalis. The radical treatment of such a case consists in tapping the sac, drawing off the fluid, and then substituting for the fluid something that will produce inflammation of the sac. Various substances have been used for this purpose. Setons are sometimes employed. These will usually cure; but there is always risk that suppuration may occur in the sac, giving rise to a great deal of trouble. Various substances are used by injection, as the old-fashioned but very painful one of port-wine, or carbolic acid, tincture of iodine, and sulphate of zinc. The remedy which I have found to act most satisfactorily is the tincture of iodine. There is something peculiar about the inflammation excited by this remedy. I have never seen it produce suppuration. The pain caused by its use soon subsides, and it develops inflammation sufficient to prevent further secretion of fluid. Hydrocele is not cured, as is sometimes supposed, by the two surfaces of the tunica vaginalis being glued together and the cavity destroyed, but by some modification of its surface. The inner surfaces lose their moist, smooth, and glistening appearance, become rougher, and are intersected at points by bands of lymph.

I propose, therefore, after introducing this grooved needle (for I always like to see the character of the fluid before I inject a hydrocele), and if I find no disease of the testicle, to inject two and a half drachms of undiluted tincture of iodine. In tapping, always make the integuments tense, for, if you do not, the trocar may slip between the tunica vaginalis and the integument. Guard the testicle by grasping the tumor, so as to keep the gland back. The trocar is to be first put in perpendicularly, taking care to avoid any large superficial vein, and then brought to an oblique position as it enters the sac.

You now see the serum escaping. This has a bloody appearance. The fluid from the tunica vaginalis is usually of a light straw color, and is highly albuminous. This is a little bloody, perhaps as a result of previous tapping. The testicle is, I think, not diseased. I judge so from the fact that it is neither super-sensitive nor enlarged. Always, before injecting a hydrocele, examine to see if there is a hernia. There is no impulse transmitted on coughing: I therefore judge that there is no hernia. Having removed all the fluid, I now inject  $\frac{f3ijss$  of the tincture of iodine. I leave it all in, not allowing one drop to escape. In order to have the fluid brought in contact with the whole surface of the tunica vaginalis, I rub it in this manner in different directions. After injecting a hydrocele, you will often find pain complained of in the loin. This only means that an impression has been made on the genito-crural nerve, and that this has been reflected from the tunica vaginalis to the loin.

The patient will now be put to bed. In two or three days the scrotum will be larger than it was to-day, but after this time it will begin to subside. In six or seven days a suspensory will be applied, and the patient allowed to go about. The cure is generally completed in three or four weeks.

#### FRACTURE OF BOTH BONES OF THE LEG.

This man has just been admitted to the hospital. He has received an injury of the leg. The first thing we observe on comparing the two limbs is that the one on the left side is very much swollen, that the foot has a tendency to roll out, and that there is some discoloration about the ankle. Taking these things in connection with a slight deformity which I observe, I should say that we probably have a fracture at the lower part of the leg. When I take hold of the leg, I find that there is a fracture of both bones at the lower third. I have the two characteristic symptoms of fracture, unusual mobility and crepitus. I shall, therefore, not submit him to the pain of any further examination.

You are all familiar with the treatment. It consists in putting the leg on a pillow in a fracture-box, placing around the ankle a compress wet with some anodyne lotion in order to relieve the inflammatory swelling, and then suspending the

fracture-box by a sling, thus preventing any derangement of the fracture by the movements of the patient. This is a valuable addition to the fracture-box in the treatment of fracture of the leg. We now adjust the fracture-box. Let me say two or three words in regard to manipulation. I run my fingers down the spine of the tibia, and I find a slight displacement, the lower end of the upper fragment being in front of the upper end of the lower fragment. Elevating the heel does not remove it. This is a very common deformity, and is sometimes very difficult to prevent. I now flex the leg on the thigh and place it on its outer side, thus relaxing the muscles at the back of the leg, and the deformity disappears as if by magic. I now replace the leg in the fracture-box without causing the displacement to return. The sides of the box are now brought up and secured by strips of bandage. The foot is to be slightly elevated, which is its natural position, and secured to the foot-board. The toes—not the entire sole of the foot—should rest against the foot-board. This constitutes the dressing; and it only remains now to suspend the box and limb.

### TRANSLATIONS.

#### PHYSIOLOGICAL EFFECTS OF ACONITINE.

—In the course of a series of researches into the physiological action of different varieties of commercial aconitine and pseudo-aconitine upon the muscles and nerves, conducted by Prof. Plugge, in the Pharmaceutico-Toxicological Laboratory in Groningen, Netherlands, during the past year, some interesting results were developed. Seven different sources furnished the alkaloids for the experiments, which were conducted upon frogs. The first end in view was to overthrow the view of Boehm and Wartmann, that aconite does not paralyze the motor nerves, in which he was completely successful; the second, to determine if any qualitative difference existed between the action of aconitine and pseudo-aconitine, but the experiments showed that no such qualitative difference existed. The results of the study are given as follows (the effects being identical in both varieties of frogs experimented upon):

1. Aconitine and pseudo-aconitine both

exerted a paralyzing effect upon the peripheral, intra-muscular terminations of the motor nerves, resembling curare in this respect.

2. The nerve-trunks were not paralyzed by these alkaloids.

3. By aconitine and pseudo-aconitine the sensory nerves were either not paralyzed at all, or, at the most, only in a slight degree.

4. The view of Boehm and Wartmann, that the paralytic symptoms are attributable to a central action, he considered not to have been demonstrated; on the contrary, the origin of the general paralysis is due to an action upon the peripheral terminations of the nerves.

5. The muscles retain their irritability, even after poisoning by doses of aconitine from five to ten times larger than those with which the end-organs of the nerves are paralyzed. Neither aconitine nor pseudo-aconitine is a muscle-poison. The supposed resemblance (Weyland) between the aconitine- and veratria-muscle was not established. The aconite muscle-curve is not at all different from the normal muscle-curve.

With regard to the other symptoms, which were studied with less exactitude, the following may be added in conclusion:

6. Fibrillary muscular twitchings were seldom observed, and decidedly do not form any constant symptoms of aconite-poisoning in frogs.

7. Mydriasis often occurred, but was not always observed.

8. Separation of the skin also was frequently observed. The different kinds of aconitine, however, varied in the amount of separation which they caused.

9. The respiration speedily declines, and after a few minutes completely ceases. This sign is very constant and characteristic.

10. Opening of the mouth, and apparently attempts at vomiting, appear almost always in the *rana esculenta* as well as in the *rana temporaria*, and form a characteristic sign of aconitine-poisoning. The violence of the retching, however, varied with the different kinds of aconitine.

11. The blood of the poisoned animals is generally of a dark violet-red color, so that the distended veins look black. However, Friedländer and Schuchart's preparations differed in this respect, that only

very slight color-change in the blood followed their use.

12. The heart finally ceased in diastole, distended with dark violet-red blood; the auricles beating longer than the ventricles. The poisoned but still pulsating heart cannot be stopped either by electrical irritation of the vagus or through irritation of the sinus. The scarcely beating almost paralyzed heart, on the contrary, can be again brought into motion by electrical stimulation.—*Archiv für Path., Anatomie und Physiologie, etc.*, Bd. lxxviii. Heft 3.

A CASE OF OLD HYSTERICAL CONTRACTURE SUDDENLY CURED BY THE ADMINISTRATION OF "FULMINANT PILLS" (MICA PANIS).—Cases of hysterical manifestations, especially of contracture, cured by strong mental emotion, are not very rare; but, since non-scientific minds persist in attributing certain of these cures to supernatural agency, it is not without interest to report one in which it is impossible to admit the mysterious intervention of occult or imaginary personalities.

A girl, 28 years of age, upon admission into the hospital of La Charité, gave the following history. After an attack of chorea, at the age of twenty, she had persistent feebleness of the limbs (?), so that she was unable to walk for two years. She then was well the next two years, but, being exposed to a fright, the chorea returned, and lasted five months; but this was followed by a sense of oppression and vomiting, which persisted for two years, when she entered the Charity Hospital, where she was vaccinated. This brought on a third attack of chorea, lasting two months only, but which was followed by contracture of both lower extremities. The patient was markedly hysterical, but there was no local anæsthesia at that time, although subsequently left hemi-anæsthesia was discovered. The condition of the lower extremities was that of spasmodic paraplegia. She had acquired the habit of receiving frequent hypodermic injections of morphia. As her demands for them were increasing, the attending physician, Landouzy, decided upon a radical step, and told the patient that she could have no more morphia, at which she complained bitterly. She was then told that in place of the punctures she would receive a medicine much more active, but which must be used very sparingly, because it was a violent agent. She

was then given two pills of *mica panis*, with the recommendation to take them in four doses,—that is to say, a half of a pill each night and morning. At the regular visit, the next morning, the patient, contrary to her custom, was found happy and smiling. "I wanted to poison myself," she said, "and I took both of the pills last evening at once, contrary to orders. They produced a terrible effect on me,—I feel them still boiling inside; but look at my limbs!" Then she got up and walked around, slightly dragging the soles of the feet, but using the limbs with considerable facility. She begged for another pill, "in order to cure the feet completely." This was conceded, and on the 10th of October the invalid, who had not quitted her bed for eight months, was able to go about and assist in the service of the wards. At the end of the month she left the hospital entirely well.—*Revue de Médecine*, September, 1882.

The powerful mental impression made by the supposed "fulminant pills" was here sufficient to produce such a strong nervous reaction as to produce modifications, dynamic, organic, and functional, which terminated the paraplegia; just as another nervous reaction, such as a douche or an electrization, for example, might produce a paraplegia.

THE PHYSIOLOGICAL FUNCTION OF MICROZYMES.—In a communication to the Paris Académie de Science, M. Béchamp, having found alcohol in the liver, the brain, and the muscular tissue of animals, in the fresh milk of the cow and the ass, and in the urine of total abstainers even, claims that the microzymes (micrococci, spores, etc.) which are constantly found in the blood perform an important physiological function, analogous to fermentation outside of the body, and the products are the same,—alcohol, lactic and butyric acids, etc. The cause of decomposition after death, these ferments are also capable of producing disease during life, though not attacking albuminoid or gelatinogenous material (either before or after their evolution into bacteria) until after the destruction of the carbonaceous or glycogenous substances. He further states that all his observations tend to demonstrate that the microzymes in organisms are agents chemically and physiologically active in all the transformations which are accomplished both during life and after death.—*Bull. de Thérapeutique*.

# PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 21, 1882.

## EDITORIAL.

### THE INTRODUCTION OF THE CULTIVATION OF CUPREA BARK TREES INTO THE UNITED STATES.

MANY years since, the American Medical Association appointed a committee to consider the cultivation of the cinchona in the United States. The committee considered, and, it may be, are still considering,—perhaps finally will discover what is at once apparent,—that the climatic conditions necessary for the growth of these trees do not exist in the United States. We have always believed associations and committees to be about as useful in the doing of scientific work as a Cape-Colony trek-wagen, with its ten span of oxen, would be in a trotting-match; and so it has been in the present instance. Nothing has been done, no new light shed, and when the opportunity has come it is not noted.

As early as 1820, a Brazilian surgeon, by the name of Remijio, pointed out to his countrymen that the bark of certain small trees or shrubs growing in Brazil is as effective as the Peruvian bark in malarial fevers, and ever since, in Brazil, these plants have been known by the names of *Quinia de Sera*, or *Quinia de Remijio*. St. Hilaire placed these shrubs in the genus *Cinchona*, as *C. Remijiana*, *ferruginea*, and *Vellozii*; but De Candolle erected them into a new genus, *Remijia*, which has since been universally recognized by botanists. It is distinguished from *Cinchona* by the fruit-capsules opening semi-loculicidally, by its peltate seeds, and by its inflorescence in elongated axillary racemes with opposite fascicles of flowers. In 1857, new barks appeared in the London market, but only

within the last few years have these so-called *Cuprea* barks appeared in large quantities. For several years, it is stated, a single firm controlled the whole business of collecting and exporting the bark, which they affirmed was used for dyeing and was of but little value. So they kept the mine of wealth in their own hands, until the great size of their shipments excited so much attention that concealment was no longer possible. Then a rush to the forests, comparable to that to gold-mines, occurred, and the whole business of Colombia is said to have been demoralized: agriculture was neglected, clerks left their desks, exchange became irregular, and the "fever" raged universally.

The bark has been sent to London in such enormous masses as to break the whole cinchona market. It has also been largely used in this country. Mr. S. G. Rosengarten states that the bark reaches us from London, and also directly from Colombia. There are two distinct regions which yield it: one is the lower part of the basin of the Magdalena River, in the province of Santander, the trees growing in the mountain-chain of La Paz, and the port of export being Bucaramanga; the other is the basin of the Orinoco, among the mountains which constitute the eastern branch of the Cordillera of the Andes.

These barks vary in the percentage of quinine they contain. Mr. Rosengarten informs us that the yield in their laboratories has been from one to two per cent., and that usually the bark is remarkably free from inferior alkaloids. The complete absence of cinchonidine is said to be characteristic of them. Messrs. D. Howard and I. Hodgkin, Dr. B. H. Paul, and Mr. Cownley and Mr. T. G. Whiffen almost simultaneously announced the discovery in them of a new alkaloid, *homoquinine*, or *ultraquinine*, which there is reason for believing is a double salt of quinine and quinidine. The characteristic chemical product of the bark is, however, the



alkaloid *cinchonamine*, whose right to a separate existence seems to be well established.

Mr. Bentham states that the genus *Remijia* comprises thirteen species. According to the researches of José Triana, only two of these, *R. Purdieana*, Wedd., and *R. pedunculata*, Triana, yield *Cuprea* bark of commerce.

The important fact connected with these trees is that they grow in a rather dry climate, in position a little above the level of the sea, and hence without doubt can be cultivated in many intertropical countries where the *Cinchonas* will not grow. There is good reason for believing that they would flourish in Southern California and in some of the Gulf States. The people of the United States are now absolutely dependent upon the outside world for the means of combating the malaria which is so deadly in much of our territory. Were it not for quinia, we believe, ten per cent. of the whole population of many districts of the country would be ill every autumn. Yellow-fever epidemics make much noise, because their effects are so concentrated and apparent; but three autumn months without quinine would probably witness more deaths from malaria in the United States than yellow fever has caused among us during the century. The fiscal returns indicate that over a million of ounces of quinine are used in ordinary healthful years in the United States; and in some years the amount probably rises to nearly a million and a half ounces, or forty-five millions of full antiperiodic doses. So much of tribute to South America and India. More than this, what should we do if the supplies were cut off?

We have, practically, no navy, and until politics are reformed and placemen give way to officers chosen for ability, shall have none. In a war with Great Britain, with blockaded ports, malaria would find its opportunity. Is there not, then, one Congressman with energy and brains who will take up this subject and put through Con-

gress a bill to send botanical collectors to the *cuprea* districts, to study the conditions and habits of growth, to collect trees, seed, etc., and to make an effort for culture at home upon a large scale? If successful, the pecuniary returns would be enormous; and it would probably be worth while for some rich capitalist to make the venture as a speculation, if Congress be too busy improving ditches to pay attention to a matter like the present. The Indian *cinchona*-plantations are said frequently to pay seventy per cent. of their cost in a single year, and to continue in bearing for decades,—indeed, under either the “mossing” or the cheaper “coppicing” system, for indefinite years. Cutting down a *cinchona* is followed by an uprising of shoots, precisely as with our chestnut-trees, and the eighth year these shoots yield the richest bark: this is “coppicing.” “Mossing” is taking off strips of the bark and protecting the bared wood by moss, so as to let the bark form again.

We are not sure but that the “Agricultural Department” might very properly take this subject in hand, and, if it have not the means immediately to take active measures, send a report which shall wring from Congress the necessary aid. The cry of “quinine forever” might be as popular a political war-cry as was “free quinine,” a few years ago, in the malaria-scourged Southwest.

Prof. Baird, of Washington, seems to hold, by some mysterious power, Congress in the hollow of his hand. The many thousands which are spent yearly under his immediate supervision in the fisheries work, National Museum, Smithsonian Institute, etc., are as honestly and wisely spent as they are shrewdly won; but no one thing that he has as yet achieved would compare in usefulness with the formation of *cuprea* forests in the United States. Can he not spare time to obtain means for and to organize such work, in connection with the National Museum?

### VACCINATION VS. PROTECTIVE INOCULATION.

PASTEUR having conducted a series of experiments with regard to a certain form of contagious disease in cattle, the medical journals almost universally speak of the operation as charbon-vaccination. It is time that this abuse of the term vaccination were corrected. What Lady Mary Wortley Montague introduced into England as a prophylactic measure against smallpox was inoculation *with* smallpox. It had its inconveniences; it was uncertain in its effects, spreading the disease, and occasioning deaths now and then; but still it was based upon experience, and it served its purpose. When vaccination came, however, inoculation ceased by common consent, and it is now generally interdicted by law. Whatever refinements Pasteur and his school introduce with regard to the cultivation of the contagium vivum, they still propagate the disease by using the morbid products of the identical affection. All that they claim is that, by inducing a mild attack of the disease which the animal survives, it is shielded from subsequent attacks by the self-protective power of the malady itself. Now, vaccination in the human subject *never* causes smallpox.

Though Jenner and some of his successors believed that vaccinia is simply a modified form of smallpox, yet this remained until quite recently a probable hypothesis without proof. The experiments, however, of Dr. Voigt, Superintendent of the Vaccine Institute at Hamburg (*Deutsche Vierteljahrsschrift für Oeffentliche Gesundheitspflege*, Bd. xiv. Heft 3), have, it is claimed, finally demonstrated conclusively the possibility of transmuting the most virulent variolous pus into vaccine lymph, which possesses all the usual characters, and which is now being used successfully for public vaccination in this Institute. But protective inoculation for charbon cannot be properly termed vaccination, the virus not being that of

vaccinia, nor even derived from the cow.

PARTLY owing to the stimulus given by the Johns Hopkins University, but chiefly to the increasing scientific tendencies of the better portion of the American medical profession, the original study of physiology is evidently making progress among us. As a striking instance, we may cite the last number of the *Journal of Physiology*, edited by Prof. Michael Foster, of Trinity College, Cambridge. In it there are original contributions by thirteen authors, of whom no less than ten are Americans, one of the remainder being a German. All of the American papers except one seem to have been worked out in America.

THE Seventh Annual Meeting of the American Academy of Medicine will be held in the Hall of the College of Physicians, Thirteenth and Locust Streets, Philadelphia, on Thursday, October 26, at 3 o'clock P.M. Dr. Traill Green will deliver an address at 8 P.M., in the College. The general profession is invited to be present.

### LEADING ARTICLES.

#### VACCINE ESTABLISHMENT OF BELGIUM.

THIS establishment, which is now completed and in operation, promises to afford most valuable statistics, and to be of great value to its own country and to other countries by the example it furnishes for them to imitate.

The new neat brick building is placed in one corner of the botanical garden of the School of Veterinary Medicine of Belgium at Cureghem.

On one side of a corridor is a stable, with accommodations for twenty calves, and adjoining is the operating-room, with two tables furnished with braces and hobbles for properly restraining the animals.

On the other side a room with cabinets and refrigerator for preserving the virus, the office for records, and a handsome parlor for the committee, are conveniently situated.

The direction is formed of a committee of Doctors of Medicine and of Veterinary Medicine under the Presidency of M. Theirnesse (Director of the Veterinary School and Secretary of the Royal Academy of Medicine). The animals, calves of variable age, are inspected, in order to insure perfectly healthy subjects before being used.

On three successive days of each week one or more animals, according to the demand for vaccine matter, are inoculated.

This is accomplished in the following manner:

The belly is thoroughly washed, and then shaved from the inside of the thighs forward to the middle of the sternum and on each side beyond the elastic aponeurosis.

The matter is then inoculated in series of lines two inches in length.

The calf is numbered and recorded, together with the source of lymph employed, and a clinical record is kept each day of the animal.

On the sixth day the animal is placed on the table and the virus collected as follows:

The vesicles, which are two inches in length and a half-inch in width, are lifted by lock-forceps placed on the sound skin each side, the crust is broken by passing the finger over it, and the serum, which exudes for the moment or two following, is collected on the point of a spatula and transferred to a small cup.

The surface covered with the broken crust is then scraped, and the "raclée" (the most valuable part) is placed in another cup.

This manual on a single animal occupies the time of one operator for over an hour.

The other operators in the mean time prepare the virus, taking each few grammes as fast as collected, in order to avoid a longer exposure to the air than is necessary.

The serum first collected is mixed with glycerin, to insure a more equal density, a few drops of a one per cent. solution of carbolic acid are added, and then fusiform capillary tubes are placed with one end in the mixture to fill themselves.

When filled, each end is hermetically closed with sealing-wax or with paraffine and collodion.

Occasionally ivory points are also used, as in America.

The "raclée" is also treated with glycerin and carbolic acid, and is ground in a mortar until an even pulp is produced.

It is then, in drops of variable size, according to its destination, placed on square

plaques of glass, another glass is applied as a cover, and the four edges are dipped in hot paraffine.

Each preparation is placed in a wrapper, numbered individually and in series corresponding with the animal, and when not sent immediately for use is kept in the refrigerator.

Copies (translated) of the forms and blanks employed will give concisely the means used for furnishing the virus and for obtaining the statistics.

With each point, tube, or plaque is a small circular, with the following:

"CENTRAL VACCINE OFFICE OF THE STATE AT THE VETERINARY SCHOOL (BRUSSELS, MIDI).

"By Article 2d of the Royal Decree of February 15, 1882, the object of the Vaccine Office is to furnish animal vaccine to public administrations, to physicians of the country, and also to private persons, who will demand it *by writing* from the Director of the establishment.

"Burgomasters and physicians will have the privilege of free postage on the condition of their sending their requests *open*, with the signature and 'Demand for vaccine' on the envelope.

"Private persons should have their requests approved by the burgomaster or by a physician confirming the need of vaccine matter.

"Their letters should be stamped. The office furnishes the vaccine on points, in tubes, or in plaques.

"In each demand one should—1st, indicate the form in which it is desired; 2d, give exactly the address; 3d, give definitely the quantity to be furnished, or, better still, the number of persons to be vaccinated. The vaccine is furnished and sent by the post GRATIS.

"It is recommended to employ it, when possible, in the two days following its reception.

"*The result of vaccinations and of revaccinations being obtained, the vaccinator should fill the enclosed Bulletin and put it in the post.*"

On the opposite side of the circular are directions for the use of the points, tubes, or plaques. The bulletin is a card (postal), with, on one side:

"Free postage" and the address of the Director.

On the other:





ates, and hence will render the urine alkaline. Calcium benzoate could not, therefore, be substituted for benzoic or boracic acid in Dr. Walker's case. It was necessary to use the free acid. Dr. Tyson, in a paper read before the Society several months ago, had called attention to the serious injury that would result from not recognizing the chemical changes which remedies produced in the urine. In all cases of urinary deposits the method referred to by Drs. Ludlow and Blackwood—viz., the liberal use of drinking-water—was good practice.

Dr. Walker said the case he had presented was certainly one that would not permit the use of any remedy causing alkalinity in the urine, and, as Dr. Leffmann had remarked, the free benzoic acid, or some other acid which would be excreted as such, was required. In reply to an inquiry, he said that the boracic acid was given in powder. Calculi are to be treated chemically. Roberts had shown, for instance, by experiment, that uric acid was more rapidly dissolved by solutions of lithia than by other alkalies, and he preferred the lithium citrate in such cases. Calcium benzoate had been used with success in amyloid degeneration of the kidney, but was not appropriate in a phosphatic diathesis.

#### MALIGNANT TUMOR OF ORBIT, NOT IMPLICATING VISION, BUT CAUSING EXTREME EXOPHTHALMOS.

Dr. Charles S. Turnbull, through the courtesy of Dr. B. F. McElroy, exhibited a case of a single woman, aged 37, in whom extreme exophthalmos of the left eye was caused by a malignant postocular tumor, which, he thought, had its origin at the base of the skull, or perhaps in the sphenoidal cells, as there was nose-implication. The growth in its malignant development had invaded and occluded both nostrils. It could be seen, by the aid of the nasal speculum, filling up the right nostril. It had pushed the septum far to the left, and by pressure perforated and by bone-expansion invaded the left orbit, and forced the left eye so far forward that even gentle manipulation caused the lids to spasmodically close behind the globe.

The vision was unimpaired; the action of the ocular muscles was but slightly interfered with, although the globe was displaced, not only outward, but also downward, at least three lines below the level of its fellow. Up to the time of the appearance of the exophthalmos the patient had been treated for "catarrh" and nasal polypus. The prominence of the eye had been noticed about a year ago, while the "nasal catarrh" was of old standing. The sense of smell had been lost for years. The patient's mind seemed clear, and she supported herself by needlework, although she states that at times she feels dizzy and has spells of being "out of her

head." There was no general paralysis nor any evidence of encroachment by the growth in the direction of the cranial cavities. On the contrary, the patient was stout, and appeared, apart from a peculiar cachexia, to enjoy excellent health. Pain, as a symptom, has been absent, and there is no abnormal sensibility of the growth either as felt through the upper lid in the orbit, or as incised through the dilated nostril. Through this incised wound a large probe could be passed from three to four inches either backward or outward, and upward in the direction of the orbit. In fact, the patient said she felt the probe behind her eye. Dark grumous blood, in small quantity, followed the withdrawal of the probe.

Dr. Julian J. Chisolm, of Baltimore, records "Two Cases of Malignant Tumor of the Sphenoidal Cavities, implicating Vision" (*Archiv. Ophthalm.*, vol. xi. No. 1). Dr. Chisolm says that the two reported make four cases of this serious lesion which he has seen in the past ten years.

In both of these last cases the disease seemed to have started on the right side of the bone at the base of the skull.

The eye-complication was recognized as of postocular origin, and the lesion was located about the sella turcica, on account of the ophthalmoscopic appearances of the disks and the disturbed action of the eye-muscles. In both cases the left eye became secondarily involved, both as to the functions of the optic nerve and the action of the muscles moving the eyeball. In each case the nose-implication was subsequent to the eye-trouble. The first action of the growth in its malignant development was to invade by bone-expansion the optic foramen at the apex of the orbital cone, and impress the structures passing through this opening, then slowly involving contiguous parts, until both sides of the skull about the median line became affected. In both cases progress was slow, requiring many months for development. In each treatment was unavailing to stop the steady growth of the disease, until one succumbed to the general poison, and in the other life seems to be rapidly ebbing away amidst severe torture, which morphia, in large doses and frequently repeated, can scarcely mitigate.

One case was in a boy 7 years of age; the other in a member of the medical profession, aged 37 years. The two cases have in common a malignant growth at the base of the skull, destroying sight, then developing in the direction of the face, filling the eye-sockets, pushing out the eyeballs, invading the nares, and exhibiting a striking similarity in the disfigurement produced. There are symptoms peculiar to each. The youth suffered no pain whatever when the disease was making rapidly fatal progress. The older patient, on the contrary, has suffered severely from the very beginning to the end of his trouble,

and the intense agony of his every-day life has shown no mitigation. The younger case commenced with nausea and vomiting, and with headache. In the elder the nausea, with vomiting, appeared among the last symptoms. In both the mind remained clear throughout. In both the disease extended from right to left.

In the youth death apparently came from exhaustion and septic poisoning. The eyeballs protruded in excessively hideous deformity. Bleeding fungous masses protruded from each nostril, and could also be seen behind the palate. These emitted a most offensive odor. His hearing was only implicated a few days before his death. There was total absence of pain. No post-mortem examination.

Dr. Turnbull's case, although evidently similar to the cases of Dr. Chisolm, seemed to have had its origin near the base of the skull, but the eye-symptoms, in so far as they attracted the patient's attention, were secondary to the discomfort and obstruction of the nares. Operative interference he thought ill advised, as in his experience such growths not only recurred, but grew much more rapidly after having been disturbed.

Dr. Turnbull also exhibited a case of epithelioma of the right upper eyelid, in a man aged 67. The entire lid was involved, so that the eye could with difficulty be seen, especially as several small tumors (the size of a pea) sprung from the inner surface of the lid. The patient had never suffered any inconvenience until the lid was scarified "for thickening and redness." Induration was marked, and the cachexia pronounced. A plastic operation, with a sliding flap, was proposed after total removal of the diseased lid, the flap, according to Dr. Garretson's plan, to be taken from the opposite side of the forehead.

#### DISCUSSION ON TINEA DECALVANS.

Dr. John V. Shoemaker did not entirely agree with the views advanced in the paper. He had not been able to find a parasite at any time in the round or circumscribed spots referred to by the speaker, and also spoken of by Fox, Bazin, Hardy, and others as *tinea decalvans*, but properly called by the German and American writers *alopecia areata*. He did not use, at the present time, when treating the generally-accepted parasitic affections, epilation of the hairs, which was very painful, often increasing the irritation of the parts, but depended entirely upon local medication. If he found it necessary to remove the hairs in parasitic cases, and there was no objection to destroying them permanently, he had employed, in place of epilation, electrolysis, with a very small needle, and from four to twelve cells. The operation was comparatively painless, the hair being quickly, and often permanently, removed, and the parasite usually destroyed.

For the class of cases, however, mentioned by the speaker, as well as in ringworm, in which a parasite has to be destroyed, he had used in both affections—although they are of a different nature—the ointment of either the oleate of copper or of mercury. The use of either of these ointments, rubbed in night and morning, with appropriate internal tonic treatment, was usually followed by a successful result.

Dr. O'Hara had seen much success from the copper oleate, notably in one case of *tinea versicolor*. It was of two years' standing, and extended over the front of the chest. One week's application cured it, and there has been no return in six months' time.

For bald patches on the head he had found a strong solution of muriate of ammonia very serviceable. It appears to have a stimulating effect upon the minute nerves of the scalp, and will be found to be of service in headache or fever.

Dr. Ludlow inquired if Dr. Shoemaker had any experience with white precipitate ointment in these cases. It was an excellent remedy, but must be freshly prepared to be of service. He would also like to know how long the disease usually lasted after the copper oleate was used, and whether internal treatment was given at the same time. He believed that some of the cases depended on kidney disease.

Dr. Mills said that while electrolysis is probably the best method, perhaps the only method, of destroying the hair-bulbs, it was in his experience very painful, and to most patients so severe as to be scarcely borne.

Dr. Shoemaker replied that he had studied fully the action both of white precipitate and other mercurial salts incorporated in the ordinary ointment and in the petroleum products, and had known of and seen many failures in destroying the fungus of true parasitic affections. For instance, in ringworm, after the parasite has been destroyed on the surface, by the ordinary mercurial salts just referred to, the fungus, after a time, will be again propagated from the inside of the follicle outward. He had, therefore, been using with success, in many cases of parasitic affections, either the oleate of copper or of mercury, as the oleate would, by its deep and penetrating action, kill the parasite not only on the surface, but also deep down in the follicle. The ordinary ointments, however, cannot fulfil the same indications, and will act only upon the surface. In the majority of cases he depended mainly upon this treatment, without disturbing the diseased hair. In *tinea versicolor* he had had great success with the oleate of copper, and mentioned several good results. He did not always employ internal treatment, except when the case showed indications for using it.

Dr. Cumiskey said that epilation was comparatively painless when confined to the

diseased hairs, but the extraction of sound hairs was more or less painful. Even then, however, the pain might be considerably lessened by the use of oil of cade, as recommended by Bazin, for a day or two previous to the operation, the oil obtunding the sensibility of the scalp and making the extraction easier. Chloroform may also be used locally. He thought that kidney and liver diseases were often associated with or preceded parasitic disease, producing a condition favorable to the growth of the parasite, and without which it would fail to exist. Where this condition did not exist, the fungus failed to communicate itself, and therefore some dermatologists, not recognizing the case, believed the parasite of *tinea decalvans* not communicable.

#### DISCUSSION ON INTRAVENOUS INJECTION OF AMMONIA IN SEWAGE-POISONING.

Dr. O'Hara had seen the patient, and could bear testimony to the fact that the ammonia had done no harm. It was a singular thing that Boehm, in his article on poisons (Ziemssen, vol. xvii.), says that "the degree of concentration which ammonia fumes can attain in badly-appointed privies is often so great that under certain circumstances they may even cause serious poisoning." He did not think that this was the case here, but even were it so it would act the same as sulphuretted hydrogen, by producing asphyxia or suffocation. As to the use of ammonia in the mode mentioned, he took it to be a direct irritant of the respiratory tract in the medulla oblongata. Boehm says the irritation ensuing after the absorption of poisonous quantities is so intense that it even leads to a marked acceleration of the breathing in animals whose *nervi vagi* have been previously severed, and this fact affords a theoretical basis for the employment of injections of ammonia, which have been recommended in the treatment of certain forms of asphyxia.

He believes that it is the forced respiration induced that does the good, and would think artificial respiration ought to be carried on in similar cases.

It seems to be safe to inject into a vein, yet he desired to mention that Paget reports a case in which a dilute solution of ammonia was injected into a *nævus* in a child two years of age, who died in convulsions immediately after the injection. (Ziemssen, xvii. 361.)

Dr. Toboldt detailed a case of a child which had fallen into a privy-well, and which presented symptoms similar to those enumerated by Dr. Eskridge. When he saw the child it was unconscious, cold, and blue. He used artificial respiration; consciousness was restored, and convulsions set in. He used an emetic of mustard, and an injection of soap-and-water, which brought on vomiting and purging and secured relief. He ascribed the symptoms to asphyxia.

Dr. Mills thought the case a remarkable one, and that the recovery was due to the treatment. He recalled notices he had seen of cases of snake-bite treated by intravenous injection of ammonia. The direct effect of ammonia was to prevent coagulation. He could give no explanation of the unilateral convulsions which had been observed.

Dr. Parish pointed out that in most cases of death from poisonous gases the blood was liquid, not coagulated, and therefore ammonia would not be likely to act as an antidote by controlling coagulation. He inquired if Dr. Eskridge was certain that this was the strongest *aqua ammoniæ*.

Dr. Eskridge, in closing the discussion, called attention to the fact that the case was not one of ammonia-poisoning, but one of poisoning by hydrogen sulphide or ammonium sulphide. Dr. Toboldt's case, he thought, was not one of true sewer-gas poisoning. An open well filled to nearly the level of the surface of the surrounding earth, as was the case with the one into which the doctor's little patient fell, was not a place that would admit of the accumulation of noxious gases. Besides, all sewer-gas did not contain the true sewer-poison, and the emanations from cesspools and sewers did not always contain hydrogen sulphide or ammonium sulphide. In association with Dr. Leffmann, he had made experiments on this point, and had been unable to find those substances in cesspool-emanations.

The statement had been made by Dr. Parish that the blood in the heart is fluid in cases of death from sewer-gas poisoning. If this be so, the ammonia injections did not prevent the formation of heart-clot. The view is probably correct for poisoning from sulphuretted hydrogen, where death has been immediate, but in cases where life has been prolonged several hours it is possible for a soft heart-clot to form irrespective of the condition of the blood. It is probable that the inability of the left ventricle to empty itself is a greater factor than the condition of the blood in the formation of heart-clot.

The usual post-mortem appearances in cases of sulphuretted hydrogen poisoning are congestion of most of the internal organs, especially of the lungs, liver, spleen, and kidneys, and distention of the heart with blood. It is not stated how long life had been prolonged when these alterations were found.

IN Paris a large number of horses and asses are annually slaughtered for food, and the demand is reported to be increasing. On the other hand, we learn from the *Medical Times and Gazette* that in London a quantity of horse-meat was recently seized in a sausage-maker's shop and the owner fined for using meat "unfit for the food of man," and it was ordered to be destroyed.

## NEW YORK COUNTY MEDICAL SOCIETY.

REGULAR MEETING, SEPTEMBER 25, 1882.

DR. F. R. STURGIS, PRESIDENT, in the chair.

AFTER the nomination of officers for the coming year, the scientific paper of the evening was read by Dr. W. F. MITTENDORF. It was entitled "*Myopia, and the Necessity of Correcting it by Glasses.*"

Dr. MITTENDORF said: Myopia has justly been considered a disease of civilization, and unless this is appreciated, and proper measures are taken to prevent it, it must necessarily spread. Dr. Loring had read an able paper before the Society in which he spoke specially with reference to the causation of the disease, while the author's paper had special reference to preventing an increase of the myopia after it is once developed.

Myopia depends upon an elongation of the eyeball, and the greater the degree of the elongation the greater the degree of myopia; and this is the reason why myopic eyes are rather prominent. This contrast is specially striking in persons who have one near-sighted and one far-sighted eye, the far-sighted eye being small and flat, the near-sighted one being large and prominent.

The question then is, What is the cause of the elongation of the eyeball? It would appear natural that this should be congenital; but such is not the case. Of new-born infants examined most carefully, only very few were found to be myopic. In order to become myopic the eye has, therefore, to change its shape, and myopia is, with few exceptions, an acquired condition. The reverse holds true in regard to hypermetropia. This is always congenital. After an eye has become once longer, unfortunately we cannot make it shorter again. We can, therefore, prevent near-sightedness, but we cannot cure it. We can only watch that it may not increase, and that our patients do not become excessively near-sighted or lose any of their power of vision. To do this effectually we must consider the causes of the affection, and the time in which it is apt to develop.

The next question is, whether there are eyes that have a greater tendency to acquire this condition than others. Undoubtedly this is the case; and under this head we have to consider two important factors: the one is heredity, and the other is debility, or want of resistance, of the sclera.

In support of the heredity of myopia, the result of the examination of school-children by Dr. Derby and myself is of importance. The myopic eye was found among Jewish and German children more frequently than among American and English. The great frequency of this condition among the Jews is due, perhaps, to some extent, to the habit of intermarrying. Of 45 myopic Jewish children, 18, or 40 per cent., came from myopic

families; of 82 myopic German children, 29, or 35 per cent., came from such families; but of 160 American children who had myopia, only 49, or 31 per cent., came from such families. A striking case of this kind is the following. Mr. H., an English Jew, very myopic, lost one eye in consequence of it. He has seven children, and of these five are near-sighted,—some of them to an alarming extent. It is surprising that not more hereditary myopia has been found among the 2000 children examined by Dr. Derby and myself. Of this large number 257, or about 12 per cent., were near-sighted, and of these only 51 came from myopic families.

The other condition, weakness of the sclera, is perhaps one of the most frequent and dangerous of all causes, as it is apt to last during lifetime, and lead to those high degrees of myopia which are frequently followed by loss of sight. It is apt to come on after debilitating diseases of childhood. A case of this kind is the following. A young lady, in whose family no myopia existed, was taken sick with scarlet fever when seventeen years of age, and, although she had excellent eyesight up to that time, she became so near-sighted within eighteen months afterwards that she was obliged to get medical advice, and now, three years after the attack, she requires a minus-five glass, and has only two-fifths of her visual power left. This cause leads also to myopia in illiterate people, and is, of course, of more frequent occurrence in countries where the lower class of the people are insufficiently fed, or where they are educated to debilitating vices. In Italy a large number of recruits are exempt from military service on account of a high degree of myopia, and yet a large percentage of these can neither write nor read.

Defects of the eye itself constitute another cause. Such eyes may require great accommodative efforts, especially for near-vision. Of these, an irregular curvature of the cornea, astigmatism, is of importance. A striking example was given. Slight opacities of the cornea likewise lead to changes in the eye, but dense opacities will exclude vision to such an extent that the eye is rarely used. An example was given.

But of the greatest importance is the occupation with small and near bodies continued for a long time. Prof. Cone was the first to call attention to the fact that school-children became more near-sighted in proportion to the length of school life and the time employed over study. A large number of school-children have been examined in Europe and in this country. In a paper read before the German Scientific Association, I have already given the result of Dr. Derby's and my examinations of more than 2000 school-children. In the primary department we found myopia among 3 per cent. of the scholars. In the best grammar-school of the city, 896



scholars were examined, and 119, or 13.5 per cent., were found to be near-sighted. The percentage of the American myopes was 10, that of the Germans, 17.5. In Columbia College 201 students were examined; of these 69 were near-sighted, or 35 per cent., the percentage being greater in the academical department than in the school of mines, and greatest in the senior class. Not only is a literary occupation liable to lead to myopia, but our entire mode of living, sedentary occupations, want of out-door exercise, may lead to it; and for this reason the wife of the city laborer, for instance, spending her life mostly in-doors, is in greater danger of becoming near-sighted than a man whose work calls him into the open air, where he has opportunities to look at distant objects. Even domestic animals begin to feel the effects of this mode of life, though, as is well known, they are usually hypermetropic. An amusing case of this kind occurred in Germany. A gentleman had a fine horse, which was, however, intractable. It was found on careful examination to be near-sighted, and a pair of concave glasses cured the animal of its evil habits. Spectacles will also cure the bad habits of children. This has been pointed out by Dr. Noyes and Dr. Loring. A near-sighted child, for instance, does not see as well as its playmates, who will not be slow to take advantage of this in school and at home. Not being able to become as well acquainted with its surroundings as the other children, it is apt to be looked upon as a dolt and slow, and thus the child, not being appreciated, prefers solitude, takes to reading a great deal, neglects out-door exercises, becomes morose, and its mode of life favors a further development of the myopia. Supplied with proper glasses, everything is changed, and the child's opportunities are greatly improved.

Of the greatest importance, however, are the changes that take place in the interior of the eye, due to stretching of the more delicate inner structures. There is a great deal of difference in the degrees of this affection in this respect, and, whilst a slightly myopic eye is considered comparatively safe, a highly myopic one is not only apt to suffer impairment of vision, but may become entirely blind. It should be, therefore, our main object to prevent the development of the myopia to such an extent.

In order to change the shape of the eye, the sclera must be yielding at the time when the child is growing, especially if an inherited weakness of it exists, or if debilitating diseases should have reduced its power of resistance. This is the reason why reading, drawing, writing—in fact, all accommodative efforts and convergence—should be avoided after the debilitating diseases of childhood. The most dangerous time, ordinarily, is that between five and sixteen years of age. It is only in

rare cases that it develops in an older person than twenty years. Another dangerous period is at the time when the lens becomes hard and less elastic. The myopic eye differs from the normal one not only in shape. The choroid and retina are gradually stretched and apt to be easily irritated. Atrophic changes of the choroid will form, especially in the neighborhood of the optic disk and in the region of the macula lutea. It was formerly supposed that the white crescent, which is known as a posterior staphyloma or cone, was entirely due to atrophic changes, but, according to the latest investigations, its beginning is due to traction of the choroid on the optic nerve, sheath, and the lamina cribrosa, and, according to Paulsen and Weiss, dragging over of these parts leads to the beginning of posterior staphyloma. Later atrophic changes of the choroid cells of the pigmentary layer take place, the vitreous humor suffers, which leads to the appearance of muscæ volitantes, about which near-sighted people complain so much. Later, a serous infiltration and plastic exudation take place into it. The greatest change is, however, found in the ciliary muscle, which was pointed out first by Iwanoff. This muscle is composed of two sets of fibres, the circular and the longitudinal ones. In the normal eye the longitudinal ones slightly predominate, in the hypermetropic eye the circular ones are more abundant, and in the myopic eye the longitudinal ones are greatly in excess. It was supposed that, as in myopic eyes no accommodative efforts causing increase of the curvature of the lens are called for, therefore the circular fibres are not needed; but it was never sufficiently explained why the longitudinal fibres should be so much more abundant when there was no work for them to do. Dr. Emmert maintains that the arrangement of these fibres is such that the circular ones will, by their traction, draw the ciliary body towards the lens, acting like a sphincter, thus relaxing the suspensory ligament of the lens, and allowing the lens to become more globular. The longitudinal fibres, which are interlaced with the former, will, by their action, draw the ciliary body, and with it the suspensory ligament of the lens, towards their point of insertion near the sclero-corneal junction. This must necessarily produce tension of the ligament, and as a result we get a return of the lens to its normal condition. We may even get a flattening of it, and with it a decrease of its refractive power. If an abnormal spasm of the circular fibres exist, the paralyzation of these by atropia gives the longitudinal ones greater power, by relieving them of the antagonistic action of the former, and the lens will become flatter. This is the reason why even in myopic eyes the use of atropia diminishes the amount of the error of refraction. The lens becomes flatter, and it takes a weaker con-

cave glass to focus the rays upon the retina, whilst in hypermetropic eyes a stronger convex lens is now required for the same purpose. This is exactly what the myopic person needs. The focal point of his dioptric apparatus is in front of the retina, and by diminishing the refractive power of the lens this point is brought nearer to the macula lutea. Knapp, Helmholtz, and Rheidt have demonstrated by measurements that the lens of myopes becomes flatter for distant vision than that of the emmetropic eye. As the traction of the longitudinal fibres is felt, especially posteriorly, where they are connected with the choroid, this must exert an injurious effect upon the posterior half of the eye, and it is on this account that the vision for distant objects should be corrected by proper glasses. Notwithstanding the denial of Dr. Ayres, and contrary to the general opinion, I believe that these two sets of fibres must act as antagonists, just as in the two fibres of the iris. Each set will develop with the demands made upon it. In the hypermetropic eye, where accommodation is constantly needed, the sphincter fibres become more abundant. In the myopic eye, where the lens is needed flat, the longitudinal ones predominate to such an extent in highly myopic eyes that very few circular fibres exist in them. This explains why myopic eyes, if any extra demand is made upon them, especially at the age when the lens has become hard and less elastic, are apt to suffer. The result of the constant tension of the suspensory ligament of the lens interferes with the nutrition of the lens itself, and therefore a posterior polar cataract is apt to develop. Even adhesion of the lens is more apt to occur in highly myopic eyes. Complications can, however, be avoided if proper glasses are used, especially if they were employed early in life. The improved facility to see distant objects without effort will help to prevent a further increase of the myopia, and I have been struck by the fact, which has never been sufficiently emphasized, that persons who have always been using proper glasses are rarely troubled by the serious complications of myopia. But, on the other hand, people who have never used glasses, especially those of the least cultivated class, who have unfortunately such a great prejudice against the use of them, are the ones who not only suffer from serious complications, but frequently lose their eyes altogether. If I succeed to-night in interesting the gentlemen present in this particular point, I shall consider myself richly paid for my trouble, as I know what a powerful influence your views have with your patients, who probably never dream of any difficulty from this point, and who never come near a specialist until it is too late.

I have collected as many as forty cases of patients who lost the vision of one or both eyes,—some entirely, others nearly so,—all

on account of myopia which had never been treated by glasses or otherwise. I have seen, however, on the other hand, many cases of this affection, even of high degree, where glasses had been used constantly and early, and most of them had excellent vision in old age. A table of 40 cases of persons who had never used glasses, and of 40 cases of persons who had always used glasses, was shown. The first 40 cases were taken from his class at the eye and ear infirmary, the other from his private practice. The impairment of vision was considerably greater among those who had never used glasses. 12 eyes had become entirely useless of this class, and only 3 of the other class. Vitreous opacities were found in 13 of the first, 5 of the latter class; changes of the choroid occurred in 22 of the first, in 2 of the latter class; detachment of the retina in 6 of the first, none of the second class; changes in the macula lutea in 4 of the first, 1 of the latter class; posterior polar cataract in 4 of the first, 1 of the latter class; senile cataract in 4 of the first, 2 of the latter class; dislocation of the lens, 2 in the former, none in the latter. The history of a number of cases was given to illustrate this point.

In consequence of the connection of the circular fibres with the attachment of the iris, the action of the longitudinal fibres upon these results in the dilatation of the pupil. This explains why myopes, who are constantly making efforts of this kind, have wider pupils than emmetropes or hypermetropes. The latter, especially, have to accommodate constantly by means of the circular fibres, and this error of refraction is, therefore, frequently recognized by the smallness of the pupils. On account of the size of the pupil, which admits so much light, myopes are apt to suffer greatly from this source, especially if the light has many irritating rays. The irritation is not only an inconvenience, but is absolutely harmful. It will not only interfere with clear vision, but causes irritation and congestion of the inner tunics of the eye, and thus becomes a new factor in increasing the existing amount of myopia. The correction of this should, therefore, be a matter of great importance, especially in the earlier stages of myopia, when such patients are apt to complain about dazzling and the painful effect of bright lights. Even congestions of the lid and conjunctiva are by no means rare at this time. An illustrative case was given. In this case much of the benefit derived came from the slight blue color of the correcting glasses, which neutralized the orange-colored rays of the light, which possess such irritating properties.

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<b>Ammonii Chloridi</b> .....1-10 gr. Med. prop.—Diuretic, Stimulant.	<b>Cathart. Comp. Improved</b> ...1-3 gr. Med. prop.—Cathartic.	<b>Piperisin</b> .....1-20 gr. Med. prop.—Tonic, Antiperiodic, Carminative.
<b>Antimoni et Potass. Tart.</b> 1-100 gr. Med. prop.—Expectorant, Alterative.	<b>Digitalis Fol.</b> .....1-20 gr. Med. prop.—Sedative, Narcotic, Diuretic.	<b>Podophyllini</b> .....1-40 gr. Med. prop.—Cathartic, Cholagogue.
<b>Arnicae Flor.</b> .....1-5 gr. Med. prop.—Narcotic, Stimulant, Diaphoretic.	<b>Dover's Powder</b> .....1-3 gr. Med. prop.—Anodyne, Soporific.	Two Parvules of Podophyllin, administered three times a day, will re-establish and regulate the peristaltic action and relieve habitual constipation, add tone to the liver, and invigorate the digestive functions.
<b>Arsenici Iodidi</b> .....1-100 gr. Med. prop.—Alterative.	<b>Ergotina</b> .....1-10 gr. Med. prop.—Emmenagogue, Parturient.	<b>Potass. Bromidi</b> .....1-5 gr. Med. prop.—Alterative, Resolvent.
<b>Belladonnae Fol.</b> .....1-20 gr. Med. prop.—Narcotic, Diaphoretic, Diuretic.	<b>Ferri Redacti</b> .....1-10 gr. Med. prop.—Tonic.	<b>Potass. Arsenitis</b> .....1-100 gr. Med. prop.—Alterative.
<b>Calomel</b> .....1-20 gr. Med. prop.—Alterative, Purgative. Dose.—1 to 2 every hour. Two Parvules of Calomel, taken every hour, until	<b>Gelsemini Rad.</b> .....1-50 gr. Med. prop.—Nervous and Arterial Sedative.	<b>Potass. Nitratia</b> .....1-10 gr. Med. prop.—Diuretic and Refrigerant.
	<b>Hydrarg. Bi-Chlor.</b> .....1-100 gr. Med. prop.—Mercurial, Alterative.	<b>Quinin Sulphatis</b> .....1-10 gr. Med. prop.—Tonic, Antiperiodic.
	<b>Hydrarg. cum Crota</b> .....1-10 gr. Med. prop.—Alterative.	<b>Santonini</b> .....1-10 gr. Med. prop.—Anthelmintic.
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upon as very strong. But any object farther than the far point which has an intimate relation to the degree of near-sightedness is not seen distinctly, and the myope has to try constantly to improve his vision for such objects by relaxing his accommodation as completely as possible, and thus have his lens flattened by the action of the longitudinal fibres of the ciliary muscle. Long-continued efforts of this kind cause great pain and irritation of the eyes. An illustrative case was given, in which a young lady was essentially relieved by proper glasses for long and short distance, and a tonic medicine.

I should like to say a word of recommendation for the new mydriatic, hyoscin, which is made from hyoscyamin. One five-hundredth part of a grain of it will dilate the pupil and paralyze the accommodation in seven minutes. Its effects disappear wholly in about two or three days. For children, one-thousandth part of a grain should be applied to the conjunctival sac, as it is apt to cause alarming constitutional symptoms if given in larger doses. In fact, I prefer that young patients use homatropine, which, although not quite so powerful, is a much safer preparation. I have used hyoscin for more than a year very extensively, and find that it has the advantage over atropine that it acts more promptly, and that its effect is not so lasting.

There are some cases that are known as false myopia, depending upon a spasm of accommodation, and not upon a change of the eyeball. The circular fibres remain contracted, and the lens is allowed to retain a greater curvature, and parallel rays reaching the eye are focussed in front of the retina, just as in real myopia. This is the reason why such persons see better by the aid of concave glasses. This trouble is caused by great efforts of accommodation in young people under unfavorable conditions. The use of the ophthalmoscope or of a mydriatic makes the diagnosis easy. These are the only cases of myopia that can be cured.

In regard to the prevention of myopia, the changes which we have to guard against are the condition of the sclera, the avoidance of the compression of the eye by the external ocular muscles, and the avoidance of intra-ocular pressure, which is principally caused by long-continued accommodative efforts and fullness of the intraocular blood-vessels.

In regard to the first indication, we must remember that the sclera is most apt to yield at the age of six to sixteen, a time which, unfortunately, corresponds to school life, when the eyes are more taxed than at any other period of life. The danger is greater after debilitating diseases. Children should not be sent to school for at least six weeks after they have passed through one of the severer diseases of childhood. Those children in

whom the hereditary predisposition to near-sightedness exists should be even more carefully watched.

The second danger, compression of the eye by the muscles, is only to be feared when the child is occupied with small near bodies which demand constant convergence. Such efforts will not only cause pressure, but will also interfere with the return flow of the blood through the vena vorticosa. Reading and writing, therefore, should not be continued too long at a time, as frequent repetition of it may change the shape of the eye permanently. Good light and good print are, therefore, very necessary for study; nor should children be allowed to remain in the same position for any length of time.

The third factor, the avoidance of intra-ocular pressure, is also of great importance. On this account, tight collars compressing the blood-vessels of the neck, leaning over of the head, studying before breakfast, are injurious. Long-continued accommodative efforts, and especially a spasm of accommodation, are apt to bring on congestion and fullness of these vessels. Constipation, and poor ventilation of school-rooms, will act in the same way. Out-door sports and the practice of distant vision are therefore to be encouraged. These rules are not only necessary to prevent near-sightedness, but are of the greatest importance after myopia has once developed, in order to prevent its increase. But more energetic efforts are called for if this affection is accompanied by great irritability of the eyes, which becomes manifest by a sensation of heat and fullness and pain in the region of the forehead, or in the eyeball itself, of lachrymation, of dread of light, and redness of the conjunctiva, as well as of the lids. In these cases, which are known as progressive myopia, complete rest of the eyes is necessary. This is best brought about by the use of atropine, whose effect is most lasting, and the employment of plain dark glasses. If these are not used, it will be necessary to keep the patient in a dark room during the atropine cure; but it is better to let him have as much out-door exercise as possible.

In regard to the selection of glasses, if any signs of irritability of the eye exist, these should be made of light-blue glass. If the work of the patient is such that it lies farther than the far point, weaker concave glasses must be ordered for this than for the infinite distance. Patients with a marked degree of myopia get along best with one glass for all distances. The use of the glass should be constant, and should be begun as early in life as possible. The glasses should be a little too weak rather than too strong. In some persons an abnormal preponderance of the external recti exists, which requires greater efforts of the internal recti at convergence. Correction by weak prismatic glasses should not be neglected, or division of the external recti

may be called for. Great care is necessary in selecting glasses for the higher degrees of myopia, especially if their use is begun late in life. Such eyes are not in a condition to accommodate much, and the use of too strong a glass may lead to disturbance in the interior of the eye. If the lens is hard and inelastic, it is best not to give glasses at all for reading and writing, and for the distance full correction must likewise be avoided.

#### DISCUSSION.

Dr. WEBSTER said that Dr. Mittendorf's paper was so very complete an exposition of the views of modern ophthalmologists upon this subject that it seemed scarcely to admit of discussion. Dr. W. did not think Dr. M. had said anything that he could find any fault with, and, the paper being so complete in itself, he would not consume any time at this late hour in discussing it, but would tender the author his personal thanks for having brought the valuable paper before the Society.

Dr. POMEROY.—I can say, as Dr. Webster did, the hour is late, and the author has said about all there is to be said on the subject. I would like, however, to develop one or two points. I have not myself been in the habit of giving patients glasses to wear for distant objects or of advising them to wear them constantly. I tell them not to use their eyes all the time, but to save them as much as they can. Dr. Pomeroy also touched upon some other points; among others, some of the secondary changes which take place in the interior of the eye in myopic patients, etc. In the matter of treatment it is difficult to get the patient to observe instructions fully.

After the transaction of some business, the Society adjourned.

#### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, OCTOBER 5, 1882.

Dr. FORDYCE BARKER, President, in the Chair.

THE scientific paper of the evening was read by Dr. E. G. JANEWAY, and was entitled "*Cases bearing on the Diagnosis and Localization of Cerebral Disease.*"

The author said it had been his intention to read a paper bearing on localization and its difficulties alone, but on looking over the literature of the subject he found it had been so carefully and thoroughly, and with such detail, treated of by others that he thought it better first to consider somewhat the subject of diagnosis of cerebral diseases from general diseases, and then relate some cases bearing on the question of localization.

Among the general diseases which most frequently presented difficulties of diagnosis from cerebral diseases were the fevers. First and foremost of these was typhus fever, on

account of the marked cerebral symptoms attendant on it. The author knew of certain cases in which the death-certificate had been written alcoholismus, meningitis, encephalitis, etc., when it should have been written typhus fever. The delirium, the stupor, the change in the character of the pulse, and especially the stiffness of the back of the neck, often misled one to make a diagnosis of meningitis, etc., when scarlet fever was present. Illustrative cases were given. The duration of the disease, the surroundings of the patient, the presence or absence of the disease in others in the same neighborhood, etc., were the means by which a differential diagnosis was to be made. There was an affection which might very much resemble both disease of the brain and typhus fever from the fact of the participation of the brain in the process in many cases: that was, acute ulcerative endocarditis. The detachment of soft masses from the valves of the heart and passing into the arteries of the body gave rise to the symptoms which might lead to the diagnosis of brain disease or typhus fever.

Typhoid fever rarely passed under the form of cerebral disease, owing to its longer forming stage, and usually tympanitic abdomen and diarrhoea. The physician might, however, sometimes be misled when there was an absence of the eruption and of diarrhoea, etc., or suppose typhoid fever to be present when there was only a typhoid state in connection with tumor, meningitis, etc., if the full history was not obtainable. He had on several occasions found the muscles tender, etc., and examined for trichinae; and in others he had to exclude the possibility of basilar meningitis with certain symptoms.

Malarial diseases, fortunately, were not often mistaken for cerebral disease, but the converse was not true. Tumors particularly were apt to be attended with cephalalgia, and he had known it to be as periodic as tertian. The earlier stages of cerebral abscess or a meningitis leading thereto might be attended by both headache and hectic fever, which might so simulate malaria as to make the diagnosis possible only after a careful survey of all the symptoms and the history. Some of the severer malarial attacks, such as occur in tropical climates, might cause coma, etc., and lead to the suspicion of cerebral disease.

Pneumonia and pleurisy had been in many instances mistaken for meningitis and cerebral disease, the former much more frequently than the latter or pleurisy.

Bright's disease of the kidneys, more especially the contracted type, in various ways tended to mislead the physician. There was frequent accompaniment of cerebral hemorrhage. One could not depend alone upon the presence or absence of albumen in making the diagnosis, but he must take into consideration the hypertrophy of the heart, endar-

teritis, etc. Two very interesting cases were given in illustration, in one of which a lad 16 years of age was supposed from the symptoms present to have basilar meningitis, but at the autopsy there was found to be ventricular hemorrhage, hypertrophy of the left ventricle, and disease of the kidney. The age of the patient, however, it was supposed, excluded kidney disease.

The question of locating cerebral disease must ever be one of interest to the physician. He had seen several cases which seemed to have a sufficient amount of interest to justify him in reporting them. While the symptom—that is, paralysis or spasm—came from irritation of the cortex, or from pressure or destruction of the cortex, and not from that of the subjacent fibres, yet it was seldom limited entirely to the cortex; and since the white fibres were supposed to be simply conductors from the surface, injury to them might also be of some value in rendering such conduction impossible.

One of the best cases he ever saw bearing on the question of localization was that of a man who was able to say only two words,—*ja* and *nein*,—the German for “yes” and “no.” There was no paralysis whatever; no symptoms except those of aphasia and agraphia, the latter less. He had received an injury at the inferior anterior part of the left parietal bone, at which place there was a depression sufficient to admit the end of the little finger. The location corresponded to the posterior part of the third frontal convolution. There was no improvement in aphasia during the two years he kept track of the patient, who was an intelligent man.

The next case was that of a man 47 years of age, who received an injury on the left temporal region. He fell and lay unconscious for ten minutes. Regaining consciousness, there was found to be considerable swelling at this part, but no wound; he could not speak; water flowed from his lips. There was no affection of the legs or arms, but there was paresis of the muscles of the right side of the tongue, and severe headache. He was unable to talk, and, while he could make letters, he did not place them in order in writing words. He knew the difference between the right and the wrong pronunciation of a word. The treatment consisted in quiet, cold, blisters to the back of the neck, laxatives, and iodide of potassium. He made a rapid recovery, and at the end of eight days was able to speak almost any word, but with considerable hesitation. At the end of six weeks headache, vertigo, the partial facial paralysis, and aphasia were almost completely recovered from.

The next case was that of a lad 13 years of age, who, previous to the development of symptoms, had struck his head against objects on several occasions. Two weeks after falling and striking his head on a curb-stone,

he began to complain of severe headache, the left leg became a little weaker than the right one, the left arm was also a little affected, and before long there was, perhaps, a little squint in the left eye, but there was no proof of it afterwards. The headache continued, occurring three times a week, lasting most of the day. With these he would vomit what he ate. Involuntary starts also occurred in the arm, shoulder, and hand. After about four months sight began to fail, and in about six weeks he was almost totally blind. There were no convulsions, no affection of the bladder or bowels. The boy finally became completely hemiplegic, and three days before death he became partially comatose with fever. At the post-mortem examination a gliomatous tumor was found to occupy the site of the ascending central convolutions of both sides, projecting into the gyrus fornicatus, etc. Some softening, doubtless, accounted for the fever preceding death. The tumor involved white matter as well as gray.

In opposition to this, another case was related in which no definite paralysis occurred, although there was a tumor of about the same size as in the former case pressing upon the temporo-sphenoidal lobe. The tumor grew from the dura mater.

The next case was that of a man, 21 years of age, who, after a stroke on the head, had left hemiplegia; no rigidity. He became almost comatose. On the next day he had three convulsions, during which there was frothing at the mouth, and he bit the tongue. There was no paralysis of the face or tongue. Sensation on the affected side was blunted. Trephining was performed at the seat of the injury, over the frontal lobe. A small spot of suppurative pachymeningitis was found, an explorative hypodermic needle was introduced, if possible, to find pus; but none was found. Afterwards it was discovered that the pus was situated between the arachnoid and dura mater, held by the falx and the lobule. Beyond this, situated a little farther back than the first frontal convolution, was a small hemorrhage. They probably had entered that in exploring the brain, as one time they drew out a little black blood. This seemed not to have anything special to do with the motor phenomena. The whole surface of the membrane at the seat of the injury before mentioned was coated with pus and fibrinous exudation.

In one case, that of a man who had cirrhosis of the liver, there was paralysis of the sixth and ninth nerves on the left side. There occurred in that case what was said not to occur, namely, pachymeningitis hæmorrhagica, not to a great extent, but sufficient to affect those nerves. Two or three other cases were referred to.

#### DISCUSSION.

Dr. E. C. SEGUIN said it was somewhat dif-

difficult to take up so extensive a paper as Dr. Janeway's, which touched upon so many points. It was to him a very instructive paper,—more particularly the first part of it, which dealt with the difficulty in diagnosis between general diseases which were accompanied by well-marked mental symptoms and ordinary cerebral diseases. He had seen a few such cases, and realized the extreme difficulty with which a conclusion was reached. More particularly had this difficulty been present in cases in which there was a combination of well-marked cerebral symptoms of renal degeneration, and he thought that in these cases it was sometimes impossible to avoid a double diagnosis. He also referred to a topic perhaps a little outside of the scope of Dr. Janeway's paper: that is, with reference to the diagnosis of conditions of the system which were accompanied by nervous symptoms from actual disease of the brain and its membranes. He referred to the large number of cases of indigestion, a consumption of too much of the carbonaceous foods, etc., producing certain nervous symptoms, as headache, loss of memory, affections of the eyesight, etc., or such symptoms in general as belonged to the lithæmic state. He would not detain the Academy in discussing the second part of the paper. It would seem Dr. Janeway had been led to a favorable consideration of the problem of localizing lesions in the brain, a doctrine which Dr. Seguin had been a supporter of. He had made several diagnoses based upon a firm belief in the new physiology of the brain.

Dr. J. C. DALTON, being requested by the President to make some remarks upon the subject from a physiological point of view, said he thought what we needed now was a discussion of the facts going to show the difficulties connected with referring particular functions to injury or destruction of certain parts of the brain. Coincidences going to show the supposed relationship between certain parts of the brain and given functions were being accumulated, but certainly many difficulties were met which might now well be pointed out. "When I recollect the great anticipations that were felt when this doctrine of cerebral localization first came up, when it was first started by Broca's doctrine in regard to the localization of the function of language, and afterwards strengthened by Hitzig's experiments with galvanism applied to the cerebral cortex, and the remarkable corroborations which followed from pathologists as well as experimental physiologists, who found that by destroying those very parts of the brain relating to particular muscular movements those muscles were paralyzed, it seemed as if a new era had begun in the study of the brain, and that all we had to do was to go on in that path and map out the brain, just as the old phrenologists mapped it out for another purpose. And the fact is,

we did succeed in that way for a good many years, and I think that the anticipation myself is a just one. At the same time, difficulties began to show themselves, and those difficulties must not be ignored. We have a great many cases aside from physiological experiments: pathological cases, in which particular parts of the brain have been found after death to be diseased or destroyed, corresponding exactly with the experimental location of the functions in question.

"At the same time, I presume that all the pathologists present will agree with me in saying that there are cases, a great many of them, of an opposite character, where lesions of those parts were not accompanied with the symptoms that might be expected, and where the symptoms which had been observed during life were not found to be caused by apparent destruction or injury of those particular parts of the brain. Now, I do not imagine for a moment that there is any contradiction in physiological or pathological facts; they are only difficulties, and these difficulties will themselves, I have no doubt, be a source of a great deal more value than apparent positive information when we understand them. It appears to me, at the present stage of the matter, that these difficulty and contradictory cases are the ones we want to have discussed more than the favorable ones. The first trouble arose in the fact that the paralysis, which was first found to be produced uniformly on the opposite side of the body on cutting away a certain portion of the brain, was afterwards found not to be permanent. Several explanations of the difficulty had been offered. First of all, we may suppose other parts of the brain take up the function which was previously performed by the destroyed portion. That at first seems a pretty clumsy explanation, and I do not think myself it offers a satisfactory theory of brain-action. One of the most ingenious explanations of the recovery of sight in animals after it had been lost on cutting away the angular convolution in the back part of the brain was that offered by Munk. He says it is, I believe, soul-blindness: that the animal sees objects, but does not know what they mean; they do not suggest anything to its mind. He says that in the neighborhood of the gray cells which had been trained to take impressions of objects, but are now removed, there are other gray cells, which are capable of doing this, but have never yet done so, and they now gradually receive the intellectual impression of the object. Now, that, of course, is a very ingenious explanation, but still I think it is a little clumsy. I think that if a piece of meat were held before a dog, and he saw it, if he received any impression whatever that there was an object held before him, being naturally a very active, quick animal, he would give some indication of seeing it. Goltz, by a series of very carefully performed experi-



ments on animals, was enabled to keep the animal alive a year after destroying three-fourths of the cerebral cortex. The result which he reached was that the assumption that particular districts of the brain are devoted to special functions is untenable. He says it is impossible to paralyze permanently a single muscle of the body by the destruction of any part of the cerebral cortex, and that equally it is impossible to believe that any circumscribed district of the cortex is exclusively devoted to the sense of sight, smell, hearing, taste, or touch."

Dr. BIRDSALL referred to a case which he had related before the Medical Section of the Academy, referring to the fact that several lesions might be found in different parts of the brain, but symptoms being present which, according to present localization, could be referred to only the one lesion. He also referred to some other cases, and spoke of the tumor in a given case simply pushing aside the brain-fibres, and not affecting them specially, as in the case of a tumor in the medulla oblongata, which must have produced serious symptoms had the nerve-fibres themselves been affected. Finally, however, death did result from symptoms which must be referred to the influence of this growth upon the functions of the nervous centres in its neighborhood. He thought it was a fact that certain of the nervous tracts were traversed more frequently than others, although we could not distinguish the fact by microscopical examination, and upon this was based the theory that when an obstruction existed in the course of the usually traversed tract, an unused or comparatively unused tract would gradually take on the function of the old. He referred to the theory of overlapping sensory layers, they probably also overlapping motor areas.

Dr. H. KNAPP, being requested to speak concerning the relation between brain-disease and eye-symptoms, said that choked disk or other optic symptoms could not be utilized much in cerebral localization. Almost any inflammatory process in the brain might involve parts connected with the optic tract sufficiently to give rise to these optic symptoms. We sometimes find cases where, under inflammatory symptoms, people get blind and deaf at the same time, and perhaps have gustatory disturbance and disturbance of other special senses which are examined less. He had seen cases of that kind with all the symptoms of a cranial tumor, in which the deafness disappeared, blindness disappeared from one eye, while the other remained perfectly blind, although choked disk had existed alike in both eyes and both disks appeared exactly alike afterwards.

The discussion was closed by Dr. JANEWAY, who referred to some other cases which had a less direct bearing in favor of localization.

The Academy then adjourned.

#### OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, THURSDAY, October 5, 1882.

The VICE-PRESIDENT, T. M. DRYSDALE, M.D., in the chair.

DR. W. GOODELL exhibited the specimens and gave the histories of the following cases:

##### RENAL CYST.

Mrs. C. M. G., aged 52, and married for twenty-eight years, has had three children, the youngest of whom is twenty-five years old. For many years she has had pain in the left renal region, and sharp attacks of gravel. This pain was so increased by jolting that she was unable to drive even in a carriage with double springs; but she has never experienced the excruciating pain of a stone passing down the ureter. Of this she is positive. Four years ago she began to enlarge, but she did not suspect a tumor. As her health grew worse, she came on from the West, and in last July consulted Dr. J. F. Bird about it. He recognized a cyst, and called Dr. Goodell in to see her. Despite her age, her catamenia were not only regular, but too free. Dr. Goodell expected to find a fibroid, but the womb measured only three inches, and it was also very movable, and wholly independent of a large cyst which filled up the abdomen like an eight-months foetus. The lower edge of the cyst could be felt per vaginam lying in front of the womb. Percussion elicited all the phenomena peculiar to ovarian cysts. Coronal resonance was marked. There was dulness in front, showing the complete absence of intestines from that region, their presence being alleged to be one of the most trustworthy signs of a renal cyst. As the lady stated positively that there were changes in the size of the tumor, Dr. Goodell was disposed to regard it more as a cyst of the broad ligament than as one of the ovary.

The operation was performed on September 16. As soon as the cyst was reached, it was ascertained that it was not ovarian or parovarian, but it was fully fifteen minutes before its true character was discovered. The cyst was covered with a very vascular but loose layer of peritoneum, to which, in the lateral regions, the intestines were attached, and in which they seemed to be embedded. This was cut open and stripped off from the whole cyst, which now revealed on its lower border an expanded and healthy portion of the left kidney. To confirm the diagnosis, a small calculus was found within the cyst, and a much-distended ureter discovered. The pedicle formed by this process of enucleation consisted, below the ligature with which it was secured, of the

renal blood-vessels enveloped in connective tissue. But to get a button of tissue sufficient to prevent all slipping of the ligature, the operator was obliged to leave on its distal side a small portion of the cyst, but none of healthy kidney.

It was evidently a case of hydronephrosis, but the uterine sound was passed into the ureter and no obstacle was met with: it probably did not reach the bladder. This ureter was brought out at the lower angle of the wound, and secured there by one of the sutures. Nineteen days have now elapsed since the operation, and the lady has done uniformly well, and sat up to-day for the first time.

#### HYDATID OF MORGAGNI.

The lady from whom this specimen was taken was operated on by Dr. Goodell, on September 4, and promptly recovered. The cyst was of the left ovary, but the right one, being also diseased, was removed. Attached to one of the fimbriae of the oviduct is a very beautiful specimen of a hydatid of Morgagni. This little body, so often found attached to the ovary, was of interest, because those small cysts of the abdomen, which, after obtaining a small size, would burst and usually refill, were, in Dr. Goodell's opinion, cysts of this hydatid.

#### CYST OF THE PAROVARIIUM.

This specimen was taken from a young woman, aged 22. The tumor was first noticed eight years ago. Dr. Goodell aspirated her before the clinic at the University of Pennsylvania in October, 1880, and November, 1881. On each occasion a perfectly limpid fluid was removed, and the diagnosis was consequently made of cyst of the broad ligament. As the cyst again refilled, she demanded its removal, and she was accordingly operated on before a ward-class, on September 19. The cyst sprang from the left side, and had the usual delicate and vascular wall. Spread out on its lower border is the corresponding ovary, which could be very readily overlooked by a careless observer. The right ovary, being much enlarged and filled with small cysts, was also extirpated. When first removed, it contained a fine corpus luteum, but the alcohol had dissolved this out, leaving merely the deep pit which held it. The operation was performed just two weeks after her last monthly period. The usual metro-staxis occurred on the fifth day after the operation. The patient is convalescing well.

#### PAPILLOMATOUS UTERINE GROWTHS AND METRORRHAGIA.

Dr. W. H. PARISH exhibited two apparently similar growths removed from the endometria of two patients, one of which he

considered benign, the other malignant. In the first case menstruation had ceased for a year, after which it had returned and become constant and profuse. She had suffered from prolapse following labor twelve or fifteen years ago. Dr. Parish dilated the uterus with two sets of sponge tents, after which he introduced his finger and found a number of elevations as large as a pea. Some of these he removed by means of curettes, and others by seizing them by forceps and twisting them off. Some metritis followed the operation, but no blood has been lost in the last four weeks.

The second specimen was removed from a carcinomatous uterus, by means of the curette and the écraseur.

Dr. GOODELL remarked that he did not allow the revelations of the microscope to govern him in his treatment of bleeding from the uterus. He had under his care recently three such cases, all of which were reported by noted microscopists to be carcinomatous, but one of these cases was entirely cured by local measures.

One case of lacerated cervix with ectropium and free hemorrhage, pronounced undoubtedly cancerous by a microscopist of high repute, was relieved by scraping and cured by operation. Another case, pronounced cylindrical epithelioma by the same gentleman, recovered after operation.

A patient of Dr. C., while in this city, was referred to him for examination as to the cause of persistent menorrhagia. Ether was given, and a careful and thorough examination made, and the round and sharp curettes were used, but Dr. Goodell could find no cause except a few minute granulations. This class of cases is usually found among stout or plethoric women, and the hemorrhage will recur after any treatment, although temporary benefit can be obtained. When the curette is passed over the walls of the uterus it exercises a tonic effect, and a contraction results, checking the hemorrhage.

Dr. A. H. SMITH stated that he had had under treatment a number of cases of marked ante flexion, generally in young girls, in whom dysmenorrhœa is followed by very profuse menorrhagia, which proves very exhausting and will not yield to internal remedies. Examination shows no recognizable cause, but a stem-pessary will secure entire relief in a few months. He has seen six such cases within the last three years. He has had under treatment cases resembling epithelioma of the uterus in which the introduction of a large sponge tent has resulted in complete cure, and secured the cessation of profuse and hitherto uncontrollable hemorrhage.

Dr. PARISH remarked that some cases of incurable hemorrhage are due to inflammatory adhesions of the uterus to surrounding tissues, which will disturb the circulation and modify nerve-action. He considers the smooth wire

curette a valuable aid in diagnosing the condition of the endometrium, as its passage over the uterine wall will distinguish between healthy and unhealthy uterine tissue.

A patient suffering from uterine hemorrhage for three weeks following a possible miscarriage at three months was cured by one application of the smooth curette, which brought away some granular matter.

## REVIEWS AND BOOK NOTICES.

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF BALDNESS AND GRAYNESS. By TOM ROBINSON, M.D., etc. London, 1882. Pp. 44, 8vo, cloth.

This well-written and handsomely-printed *brochure* is of especial interest for those who are anxious to postpone the more salient evidences of the sere and yellow leaf period of life as late as possible. Calvities and canities are herein discussed historically, etiologically, clinically, and therapeutically, in a style at once elegant and edifying; the recommendations for treatment being judicious and well advised. It is a book that both patient and physician may read with pleasure and profit; but more particularly is this true when the physician is himself the patient, which is not unusual with these disorders.

A COMPLETE PRONOUNCING GAZETTEER, OR GEOGRAPHICAL DICTIONARY OF THE WORLD. New Edition, Thoroughly Revised and Greatly Enlarged. Philadelphia, J. B. Lippincott & Co., 1882.

It is curious how feeding a want makes it grow. A few years since, there was no such book as the one before us; but it came, met a want more or less clearly recognized before, and to-day no private library can be considered complete, no school decently furnished, without this gigantic octavo. In it one hundred and twenty-five thousand localities are described with all necessary detail. Who can remember a tithe of this information? Who can do without it? The great geographical instructors of to-day, or, perhaps we might more correctly say, the great geographical inciters, are the newspapers. To-morrow the telegraph may electrify us with the statement that the Russians have advanced to Tschao-Naiman-Sume-Khotan, and Europe, threatened with consusive throes of war, together with America, eager in its sympathy, must at breakfast hold its breath until it can look in the Gazetteer and find that the town of name unpronounceable is a Mongolian city, one hundred and sixty-five miles northwest of Pekin. Or a Star Route contractor hails from Jesuit's Bend; and, lo! to the Gazetteer go a host of patriots, eager for the blood or incarceration of the defrauder. Or some one

in studying where best he can locate himself to manufacture flour consults the Gazetteer, and with a sigh reads that there is a grist-mill twenty miles north of Abington, and with sadness forever turns from the contemplation of Russell County, Virginia. Such is an epitome of life, and it were an easy task to prove that this great Gazetteer, peerless and alone among books, is a necessity alike to the "school-marm," the cultured dilettante, the man of enterprise, and the mere reader of newspapers. Let, then, such of our readers as have not decided what gift at Christmas-tide they shall upon their wedded spouse bestow, send at once an order for this book, in which the world condensed doth lie.

THE INCIDENTAL EFFECTS OF DRUGS. A PHARMACOLOGICAL AND CLINICAL HANDBOOK. By DR. L. LEWIN, Assistant at the Pharmaceutical Institute of the University of Berlin. Translated by W. T. Alexander, M.D. New York, William Wood & Co., 1882.

Every dog has his day, and, while we as a body have been undermining the popular trust in the healthfulness of water, air, and food, showing, by chemical analysis and the microscope, that we are all drinking sewage, breathing bacteria, and eating abominations of every sort, the author has turned the tables and gone very far towards undermining our own old childlike trust in good medicines. This he does by showing how horrible may be their incidental effects. Of course, in a general way, the information is not new. We know that there exist in the community certain unrecognized, and probably unrecognized, persons to whom a grain of calomel is a poison, who have intractable coryza from iodide of potassium, or asthma from ipecac; who lie in wait for the innocent and unsuspecting doctor, and fiendishly up and die when he gives them a grain of opium, or turn black with a safe dose of nitrate of silver, and more fiendishly live. But in this book we find them all described, coming upon us with the power that combination gives, to make our days uneasy and our nights distressed.

Who now will feel the holy calm that was wont to follow the exhibition of pepsin and bismuth? for the bismuth may meet an acid in the stomach and prove a deadly irritant in the economy. And the number of remedies capable of giving unexpected trouble is very great,—so great that we cannot, in limited space, enumerate them, and dare not, lest we render the reader timid and cause him to pause irresolute over his next prescription. The author, however, has not only indicated the evil effects to be recognized, but strives, by enlightening us as to their causes, to lead us towards their prevention, and we recommend a perusal of this book to all readers who desire to be safe practitioners.—E. W. W.

## GLEANINGS FROM EXCHANGES.

THE PRACTICE OF MEDICINE IN CHINA.—Dr. William Young, now of Toronto, but lately a resident in Hong-Kong, China, contributes an interesting paper to the *Canada Medical Record*, in which he describes the native medical practice:

"The Chinese physician largely practises counter-irritation. A favorite method, which is commonly adopted in rheumatism and inflammatory pains, is for the doctor to close his fist firmly, and, using the index and middle fingers as forceps, to seize the skin over the part, draw it forcibly outward, letting it free with a snap into its place. It is quite common to see coolies, that is, the working classes (whose bodies are usually uncovered), with long, dark, bruised lines on their persons, caused by this barbarous system of torture. A more painful, though not so common, method is the application of moxa, often causing large and gangrenous wounds by the application of fire near important and sensitive organs. But the favorite application to all parts is an adhesive plaster. It is a matter of sublime indifference to a Chinese practitioner whether the patient is suffering from an abscess or a wound, an abrasion or merely a numbness from cold; the same plaster is applied. It matters not whether the wound be recent or of long standing, or whether it be clean or foul with corruption; the same disgusting materials are applied. If, in spite of such treatment, a cure is effected, the praise of the remedy is vaunted abroad; but if, as is usually the case, bad becomes worse, they assume that some evil influence has been at work to counteract the efficacy of the drug. . . .

"One of the most melancholy chapters of Chinese medicine is the superstitious and idolatrous practices connected with guarding the sick from the destructive spirit of disease. This is accomplished by various incantations, and by the exhibition, on the bed and walls of the room, of hideous pictures to frighten away the genii of evil. Sometimes the patient's face is painted in the most grotesque manner, in fantastic shapes and colors, giving the whole scene, were not the life and health of the patient at stake, a most ludicrous aspect.

"The choice of a physician is also decided by lot, and not from any well-known skill or ability of the doctor, or, if the patient or friends decide upon a certain practitioner, they endeavor to find evidence that their selection has been fortunate. The Chinese are, however, in all these matters, thoroughly practical. The physician undertakes to cure for so much and within a certain time, and should the first dose of the medicine not produce the desired effect, the oracle is again consulted, and another physician is again called in. The moment, however, a Chinese doctor perceives that the patient is sinking, he

at once abandons the case, leaving the poor sufferer to linger without aid, or do anything to smooth the way of the last and closing scene. This moment is the opportunity of Western physicians, often, however, too late to be of any use to the sufferer. The Chinese have a thorough contempt for their doctor unless they are certain he is doing them good or he succeeds in gaining their implicit confidence by bold and reckless assertion. His nostrums are invariably looked upon with suspicion, for even in the much-vaunted Tung Wah Hospital, of Hong-Kong, which is under the management of native doctors, on a settle behind the building may be seen ranged under the name of the patient or number of his bed duplicates of the medicine given or the exhausted matrix of decoctions, so that, should the patient die with symptoms not understood, the medicine or detritus may be examined, to see that it contained no deleterious or poisonous ingredients.

"Happily for the Chinese, nearly all their medicines are inert, as pearls, tigers' bones, rhinoceros-horns, fossil bones, and numerous other articles as inert are used, which are absolutely without any medicinal virtue. Were it otherwise, it would require no gift of prophecy to predict that the whole land would soon be a graveyard, and its teeming cities would be turned into desolation. Of obstetrics as a science they are entirely ignorant, wearying and exhausting the patient by absurd and ridiculous positions, often risking the mother's life by giving her disgusting draughts, and at last abandoning the case, rendering many a home desolate or marring the maternal prospects, when the most elementary knowledge of the subject would have overcome all difficulties and saved the life of one or both. In this department, also, prejudice is fast breaking down, and in cases of difficulty a European surgeon will be sent for. It is then, when they see how simply, and without exposure, the case is dealt with, that their admiration for the foreign doctor is shown, and they make no scruple to speak of their own in terms far from complimentary."

HYPODERMIC APPLICATION OF PURGATIVES.—After L. Lewin and Kohn had published a number of observations concerning the action of certain purgatives if employed by the hypodermic method, A. Hillier, of Berlin, made some experiments which he reported last month in the *Zeitschr. f. Kl. Med.* The remedy mostly recommended for this purpose is *aloïn*. Hillier observed, after injecting 0.15 to 0.2 grams of the remedy, a copious and soft discharge within four to six hours. But the action depends much upon the preparation of the remedy. *Colocynthinum purum* produced, in the dose of five to ten mgrm., watery stools with slight bellyache. A solution is made with water, glycerin, and alcohol, but the injection is very painful. Just as painful are the injections made by a similar



solution of *citrullin*, dose 0.005 to 0.01. The same can be said of *acidum catharticum* (made from senna), dose 0.2 to 0.3. We may conclude, therefore, that these injections produce too much pain, while aloin, which does not cause this inconvenience, is very unreliable.—*Medical Press and Circular*.

THE consumption of opium in China is very great, and probably increasing, but, to the dismay of the English, who desire to supply the drug from the India fields, the Chinese are raising poppies more and more. The English consul at Ichang, China, states in a recent report the result of a careful inquiry into the question of the respective yields of a crop of wheat and a crop of opium. The result of the investigation went to show that the opium poppy yielded at least twice as much to the cultivator as wheat. Calculated in English quantities, an acre of opium will produce what is worth one hundred and fifty-three shillings, whereas an acre of wheat will give at best only seventy-five shillings. To the value of the drug itself twenty shillings has to be added for the oil-capsules and other products, which, however, may be set against the extra labor required from opium-producers and the extra manure. Other estimates put the yield of both opium and wheat lower, but the proportion is the same; and in districts remote from market towns, or in hilly country, the advantage of opium over grain is much greater, because it costs so much less to take to market. No wonder, then, that the production of the drug is increasing. The poppy is grown now on all sorts of land in China, on hill-slopes, terraced fields, and paddy and bottom lands. As recently as 1872, when Baron Richthofen reported on the cultivation of the drug, it was grown only on the hill-lands.—*The American*.

### MISCELLANY.

**MEDICAL BURSARIES.**—A considerable number of bursaries have been founded for the aid of medical students during the last few years in Great Britain, and a lady has just presented to the university at Aberdeen the sum of two thousand pounds, the income of which is to be divided among four students who shall be prosecuting their studies in Aberdeen University with the view of entering the medical profession. The *British Medical Journal*, in commenting upon this, says that, while there is no lack of bursaries in the study of divinity, it has been long felt that medical study was but poorly provided for. It is to be hoped that the good example thus set will be followed by others, not only in Europe but in America: it is one well worth copying in this country, where experimental research and original investigation badly need such substantial encouragement.

The Thirtieth Annual Meeting of the American Pharmaceutical Association was held at Niagara Falls on the 12th of September and the succeeding three days. The meeting was large and successful. President R. N. Bedford opened the meeting with an address, which contained an interesting sketch of the history of the Association. The following officers were elected for the ensuing year:

*President*.—Charles A. Heinitsch, of Lancaster, Pennsylvania.

*1st Vice-President*.—John Ingalls, of Macon, Georgia.

*2d Vice-President*.—Louis Dohme, of Baltimore.

*3d Vice-President*.—William B. Blanding, of Providence.

*Treasurer*.—Charles A. Tufts, of Dover, New Hampshire.

*Permanent Secretary*.—John M. Maisch, of Philadelphia.

*Reporter on Progress of Pharmacy*.—C. Lewis Diehl, of Louisville.

*Members of Council*.—Samuel A. D. Shepard, of Boston; William Saunders, of London, Ontario; W. S. Thompson, of Washington, D.C.

The next meeting will be held in Washington, D.C., commencing on the second Tuesday in September, 1883.

AN officer of the Pennsylvania Railroad Company is represented as saying that experiments recently made with coke as fuel for locomotives, with a view to abating the smoke-nuisance, had been entirely satisfactory.

THE Third Annual Meeting of the Board of Trustees of the Norristown Insane Asylum was held October 6. The old officers were re-elected for another year. The total number of patients remaining under treatment was nine hundred and fifty.

THE Seventh Annual Meeting of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons was held at Elwyn on October 3 and the two succeeding days. The programme contained a number of interesting papers.

**DEATH IN A DENTIST'S CHAIR FROM CHLOROFORM.**—A lady living in Dunnville, Ontario, died in a dentist's chair on September 11, while under the influence of chloroform, which had been administered by her physician for the purpose of having some teeth extracted.—*Medical Record*.

THE corner-stone of a new charity hospital in this city, to be known as the St. Agnes Hospital, was laid October 9, with appropriate ceremonies, by Archbishop Wood. It is situated at Broad and Mifflin Streets, and will have four hundred beds.

**MEDICAL INSPECTOR B. F. GIBBS, U.S.N.**, died September 9, at Trieste. He entered the navy in 1856.

**POISONING OF A CHILD BY ALCOHOL.**—A little girl, three years of age, died in this city on the 10th instant from the effects of drinking the contents of a bottle of whisky.

**DR. BENJAMIN P. HOWELL**, one of the oldest physicians in West Jersey, died at Woodbury on the 9th instant, aged about 70 years. He was the owner of Howell's Cove fishery, and was one of the State Fish Commissioners.

**THE College of Physicians and Surgeons, Chicago**, was opened formally on September 28. The building is not quite finished, but there were said to be one hundred and five matriculants at the time of opening. Where the students are, there will be medical colleges also.

**IODIFORM.**—At the meeting of the American Pharmaceutical Association, Mr. George Sloan, of Indianapolis, remarked that he had found thymol to cover and disguise the smell of iodoform to a greater degree than any other substance tried by him.

### OFFICIAL LIST

#### OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 30 TO OCTOBER 14, 1882.

**WOODWARD, J. J., MAJOR AND SURGEON.**—Leave of absence extended four months on account of sickness. S. O. 233, A. G. O., October 6, 1882.

**WATERS, W. E., SURGEON.**—Ordered to Madison Barracks, N. Y., for duty as post-surgeon. S. O. 178, Department of the East, October 5, 1882.

**WILLIAMS, JOHN W., MAJOR AND SURGEON.**—Now on leave of absence, to proceed to San Francisco, Cal., and report in person to the Commanding General, Military Division of the Pacific, for duty in Department of the Columbia. S. O. 228, A. G. O., September 30, 1882.

**WATERS, WM. E., MAJOR AND SURGEON.**—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

**IRWIN, B. J. D., MAJOR AND SURGEON.**—On being relieved as attending surgeon, headquarters of the Military Division of the Missouri, to proceed to Whipple Barracks, Arizona, and report in person for duty as Medical Director, headquarters of the Department of Arizona. S. O. 228, A. G. O., September 30, 1882.

**FORWOOD, WM. H., MAJOR AND SURGEON.**—Relieved from duty in Department of the Platte, and to report in person to the Commanding General, Military Division of the Missouri, for duty as attending surgeon at those headquarters. S. O. 228, A. G. O., September 30, 1882.

**SMITH, ANDREW K., MAJOR AND SURGEON.**—Relieved from duty in Department of Arizona, and on expiration of present sick leave, to report by letter to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882.

**CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.**—Granted leave of absence for one month, with permission to apply for an extension of three months. S. O. 105, Department of the Platte, October 3, 1882.

**BURTON, H. G., CAPTAIN AND ASSISTANT-SURGEON.**—Granted leave of absence for four months. S. O. 229, A. G. O., October 2, 1882.

**LORING, LEONARD Y., CAPTAIN AND ASSISTANT-SURGEON.**—To be relieved from duty in the Department of the Missouri, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

**SKINNER, JOHN O., CAPTAIN AND ASSISTANT-SURGEON.**—To be relieved from duty in Department of Arizona, and to report in person to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882.

**MOSELEY, E. B., CAPTAIN AND ASSISTANT-SURGEON.**—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

**TURRILL, HENRY S., CAPTAIN AND ASSISTANT-SURGEON.**—To be relieved from duty in Department of the East, and to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

**SHUFELDT, R. W., CAPTAIN AND ASSISTANT-SURGEON.**—To proceed to Jackson Barracks, New Orleans, La., and report to the Commanding Officer thereof for duty. S. O. 93, Department of the South, September 26, 1882.

**CRAMPTON, LOUIS W., CAPTAIN AND ASSISTANT-SURGEON.**—To be relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

**BARNETT, RICHARDS, CAPTAIN AND ASSISTANT-SURGEON.**—Relieved from duty in Department of the Platte, and to report in person to Commanding General, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

**MCCREERY, GEORGE, ASSISTANT-SURGEON.**—To report in person to the Superintendent of the Mounted Recruiting Service, Jefferson Barracks, Mo., to conduct a detachment of recruits to the Department of Arizona. On completion of that duty, to rejoin his station in that department. S. O. 233, A. G. O., October 6, 1882.

**BIRMINGHAM, H. P., ASSISTANT-SURGEON.**—To proceed to Fort Bayard, New Mexico, when relieved at Fort Elliott, Texas, and report to the Commanding Officer for duty. S. O. 198, Department of the Missouri, October 3, 1882.

**EWEN, CLARENCE, ASSISTANT-SURGEON.**—Relieved from duty at Fort Elliott, Texas, to proceed to Fort Gibson, I. T., and report to the Commanding Officer at that post for duty. S. O. 198, Department of the Missouri, October 3, 1882.

**OWEN, WM. O., JR., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.**—To proceed to Fort Townsend, W. T., and report to the Commanding Officer for temporary duty at that post. S. O. 138, Department of the Columbia, September 22, 1882.

**POWELL, J. L., ASSISTANT-SURGEON.**—Relieved from duty at Fort Stockton, Texas, and to report at headquarters of the Department of Texas for temporary duty as post-surgeon, San Antonio, Texas, and attending surgeon at department headquarters. S. O. 103, Department of Texas, September 29, 1882.

**CARTER, W. F., ASSISTANT-SURGEON.**—Relieved from duty at Fort Concho, Texas, and to report to the Commanding Officer, Fort Stockton, Texas, for temporary duty as post-surgeon. S. O. 103, Department of Texas, September 29, 1882.

**KANE, JOHN J., ASSISTANT-SURGEON.**—Granted leave of absence for one month, with permission to apply for extension of three months. S. O. 202, Department of the Missouri, October 9, 1882.

**WAKEMAN, W. J., ASSISTANT-SURGEON.**—Upon being relieved at Fort Douglas, U. T., to proceed to Fort Fred. Steele, W. T., and report for duty. S. O. 106, Department of the Platte, October 6, 1882.

**BRECHMIN, LOUIS, ASSISTANT-SURGEON.**—Relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

**GRAY, W. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.**—To be relieved from duty in Department of the Columbia, and to report in person to Commanding General, Department of the South, for assignment. S. O. 237, A. G. O., October 11, 1882.

**WAKEMAN, W. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.**—Upon being relieved at Fort Douglas, U. T., to proceed to Fort Fred. Steele, W. T., and report to the Commanding Officer at that post for duty in the absence of Assistant-Surgeon D. G. Caldwell, on leave of absence. S. O. 106, Department of the Platte, October 6, 1882.